


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>						1. WELL NAME and NUMBER PENFIELD 2-10C4				
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT ALTAMONT				
4. TYPE OF WELL Oil Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME				
6. NAME OF OPERATOR EP ENERGY E&P COMPANY, L.P.						7. OPERATOR PHONE 713 997-5038				
8. ADDRESS OF OPERATOR 1001 Louisiana, Houston, TX, 77002						9. OPERATOR E-MAIL maria.gomez@epenergy.com				
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) Fee			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>				
13. NAME OF SURFACE OWNER (if box 12 = 'fee') JIMMY C & GWEN M PENFIELD						14. SURFACE OWNER PHONE (if box 12 = 'fee') 435-353-4365				
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee') 11861 UINTA CANYON HIGHWAY, ROOSEVELT, UT 84066						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')				
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
20. LOCATION OF WELL		FOOTAGES		QTR-QTR	SECTION	TOWNSHIP		RANGE	MERIDIAN	
LOCATION AT SURFACE		901 FNL 700 FEL		NENE	10	3.0 S		4.0 W	U	
Top of Uppermost Producing Zone		901 FNL 700 FEL		NENE	10	3.0 S		4.0 W	U	
At Total Depth		901 FNL 700 FEL		NENE	10	3.0 S		4.0 W	U	
21. COUNTY DUCHESNE			22. DISTANCE TO NEAREST LEASE LINE (Feet) 700			23. NUMBER OF ACRES IN DRILLING UNIT 640				
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 3500			26. PROPOSED DEPTH MD: 12400 TVD: 12400				
27. ELEVATION - GROUND LEVEL 6062			28. BOND NUMBER 400JU0708			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Duchesne City				
<b>Hole, Casing, and Cement Information</b>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Cond	20	13.375	0 - 800	54.5	J-55 LT&C	8.8	Class G	1000	1.15	15.8
Surf	12.25	9.625	0 - 3700	40.0	N-80 LT&C	9.5	35/65 Poz	508	3.16	11.0
							Premium Lite High Strength	191	1.33	14.2
I1	8.75	7	0 - 9500	29.0	P-110 LT&C	10.6	Premium Lite High Strength	378	2.31	12.0
							Premium Lite High Strength	91	1.91	12.5
L1	6.125	4.5	9300 - 12400	13.5	P-110 LT&C	12.0	50/50 Poz	229	1.61	12.3
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input checked="" type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
NAME Lisa Morales				TITLE Regulatory Analyst			PHONE 713 997-3587			
SIGNATURE				DATE 03/08/2013			EMAIL lisa.morales@epenergy.com			
API NUMBER ASSIGNED 43013520840000				APPROVAL  Permit Manager						

RECEIVED: April 22, 2013

**Penfield 2-10C4  
Sec. 10, T3S, R4W  
DUCHESNE COUNTY, UT**

**EP ENERGY E&P COMPANY, L.P.**

**DRILLING PROGRAM**

**1. Estimated Tops of Important Geologic Markers**

<u>Formation</u>	<u>Depth</u>
Green River (GRRV)	3,680'
Green River (GRTN1)	5,430'
Mahogany Bench	6,400'
L. Green River	7,730'
Wasatch	9,530'
T.D. (Permit)	12,400'

**2. Estimated Depths of Anticipated Water, Oil, Gas or Mineral Formations:**

<u>Substance</u>	<u>Formation</u>	<u>Depth</u>
Oil	Green River (GRRV)	3,680'
	Green River (GRTN1)	5,430'
	Mahogany Bench	6,400'
	L. Green River	7,730'
	Wasatch	9,530'

**3. Pressure Control Equipment: (Schematic Attached)**

A 4.5" by 20.0" rotating head on structural pipe from surface to 800'. A 4.5" by 13 3/8" Smith Rotating Head and 5M Annular from 800' to 3,700' on Conductor. A 5M BOP stack, 5M Annular, and 5M kill lines and choke manifold used from 3,700' to 9,500'. A 10M BOE w/rotating head, 5M annular, blind rams & mud cross from 9,500' to TD. The BOPE and related equipment will meet the requirements of the 5M and 10M system.

**OPERATORS MINIMUM SPECIFICATIONS FOR BOPE:**

The surface casing will be equipped with a flanged casing head of 5M psi working pressure. An 11" 5M x 11" 10M spool, 11" x 10M psi BOP and 5M psi Annular will be nipped up on the surface casing and tested to 250 psi low test / 3,000 psi high test for 10 minutes each prior to drilling out. The surface casing will be tested to 1,000 psi. for 30 mins. Intermediate casing will be tested to the greater of 1500 psi or 0.22 psi/ft. The choke manifold equipment, upper Kelly cock, floor safety valves will be tested to 5M psi. The annular preventer will be tested to 250 psi low test and 4,000 psi high test. The 10M BOP will be installed

with 3 ½" pipe rams, blind rams, mud cross and rotating head from intermediate shoe to TD. The BOPE will be hydraulically operated.

In addition, the BOP equipment will be tested after running intermediate casing, after any repairs to the equipment and at least once every 30 days. Pipe and blind rams will be activated on each trip, annular preventer will be activated weekly and weekly BOP drills will be held with each crew.

**Statement on Accumulator System and Location of Hydraulic Controls:**

Precision Rig # 404 is expected to be used to drill the proposed well. Operations will commence after approval of this application. Manual and/or hydraulic controls will be in compliance with 5M and 10M psi systems.

**Auxiliary Equipment:**

- A) Pason monitoring systems with gas monitor 800' – TD.
- B) Mud logger with gas monitor – 3,700' to TD
- C) Choke manifold with one manual and one hydraulic operated choke
- D) Full opening floor valve with drill pipe thread
- E) Upper and lower Kelly cock
- F) Shaker, de-sander and de-silter, and centrifuge.

**4. Proposed Casing & Cementing Program:**

Please refer to the attached Wellbore Diagram.

All casing will meet or exceed the following design safety factors:

- Burst = 1.00
- Collapse = 1.125
- Tension = 1.2 (including 100k# overpull)

Cement design calculations will be based on: 25% excess over gauge hole in the liner section, 10% excess over gauge hole in the intermediate section, and 75% excess on the lead and 50% excess on the tail over gauge hole volume for the surface hole. Actual volumes pumped will be a minimum of the volumes stated above, however, actual hole size will be based on caliper logs in the liner and intermediate sections. Gauge hole will be used for the surface section.

**5. Drilling Fluids Program:**

Proposed Mud Program:

Interval	Type	Mud Weight
Surface	WBM	8.8 – 9.5
Intermediate	WBM	9.5 – 10.6
Production	WBM	10.6 – 12.0

Anticipated mud weights are based on actual offset well bottom-hole pressure data. Mud weights utilized may be somewhat higher to allow for trip margin and to provide hole stability for running logs and casing.

Visual mud monitoring equipment will be utilized.

6. **Evaluation Program:**

Logs:

Mud Log: 3,700' - TD.

Open Hole Logs: Gamma Ray, Neutron-Density, Resistivity, Sonic, from base of surface casing to TD.

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 12,400' TD equals approximately 7,738 psi. This is calculated based on a 0.624 psi/foot gradient (12.0 ppg mud density at TD).

Maximum anticipated surface pressure equals approximately 5,010 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/ft).

Maximum anticipated surface pressure based on frac gradient at 7" casing shoe is 0.8 psi/ft at 9,500' = 7,600 psi

BOPE and casing design will be based on the lesser of the two MASPs which is 5,010 psi.

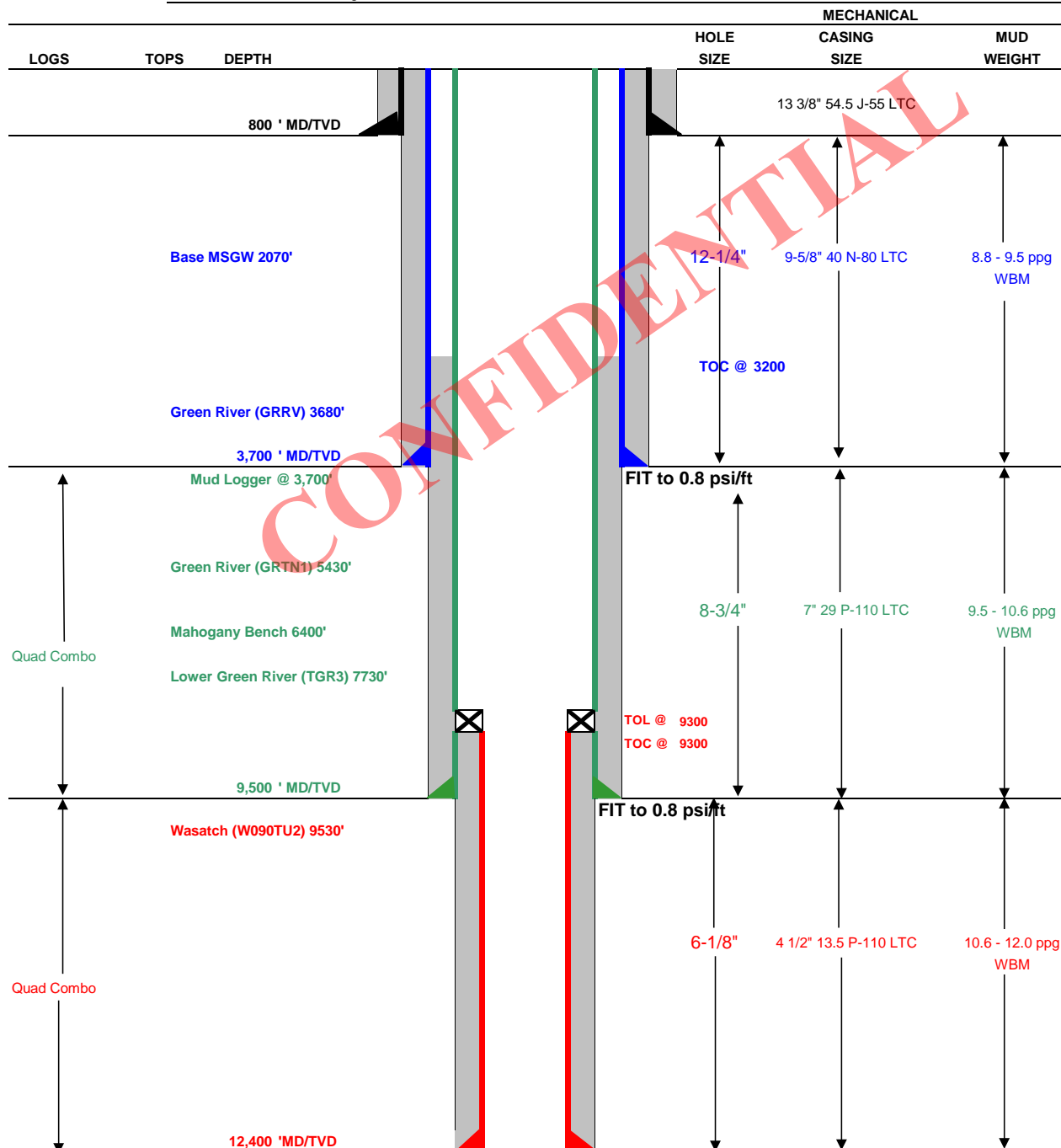
8. **OPERATOR REQUESTS THAT THE PROPOSED WELL BE PLACED ON CONFIDENTIAL STATUS.**





## Drilling Schematic

Company Name: <b>EP ENERGY</b>	Date: January 30, 2013
Well Name: <b>Penfield 2-10C4</b>	TD: 12,400
Field, County, State: <b>Altamont - Bluebell, Duchesne, Utah</b>	AFE #:
Surface Location: <b>Sec 10 T3S R4W 901' FNL 700' FEL</b>	BHL: Straight Hole
Objective Zone(s): <b>Green River, Wasatch</b>	Elevation: 6065
Rig: <b>Precision 404</b>	Spud (est.):
BOPE Info: 5.0 x 13 3/8 rotating head from 800' to 3,700' 11 5M BOP stack and 5M kill lines and choke manifold used from 3,700' to 9,500' 11 10M BOE w/rotating head, 5M annular, 3.5 rams, blind rams & mud cross from 9,500' to TD	



**DRILLING PROGRAM**

CASING PROGRAM	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	13 3/8"	0	800	54.5	J-55	LTC	2,730	1,140	1,399
SURFACE	9-5/8"	0	3700	40.00	N-80	LTC	3,090	5,750	820
INTERMEDIATE	7"	0	9500	29.00	P-110	LTC	11,220	8,530	797
PRODUCTION LINER	4 1/2"	9300	12400	13.50	P-110	LTC	12,410	10,680	338

CEMENT PROGRAM		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
CONDUCTOR		800	Class G + 3% CACL2	1000	100%	15.8 ppg	1.15
SURFACE	Lead	3,200	Boral Craig POZ 35%, Mountain G 65%, Bentonite Wyoming 8%, Silicate 5 lbm/sk, Pol-E Flake 0.125 lbm/sk, Kwik Seal 0.25 lb/sk	508	75%	11.0 ppg	3.16
	Tail	500	Halco-light premium+3 lb/sk Silicate+0.3% Econolite+1% Salt+0.25 lbm/sk Kol-Seal+0.24 lb/sk Kwik Seal+ HR-5	191	50%	14.2 ppg	1.33
INTERMEDIATE	Lead	5,300	Halco-Light-Premium+4% Bentonite+0.4% Econolite+0.2% Halad322+3 lb/sk Silicalite Compacted+0.8% HR-5+ 0.125 lb/sk Poly-E-Flake	378	10%	12.0 ppg	2.31
	Tail	1,000	Halco-Light-Premium+0.2% Econolite+0.3% Versaset+0.2% Halad322+0.8% HR-5+ 0.3% SuperCBL+ 0.125 lb/sk Poly-E-Flake	91	10%	12.5 ppg	1.91
PRODUCTION LINER		3,100	Halco- 50/50 Poz Premium Cement+20% SSA-1+0.3% Super CBL+ 0.3% Halad-344+0.3% Halad-413+ 0.2% SCR-100+ 0.125 lb/sk Poly-E-Flake + 3 lb/sk Silicat	229	25%	12.30	1.61

FLOAT EQUIPMENT & CENTRALIZERS	
CONDUCTOR	PDC drillable guide shoe, 1 joint, PDC drillable float collar. Thread lock all float equipment. Install bow spring centralizers on the bottom 3 joints of casing.
SURFACE	PDC drillable guide shoe, 1 joint casing, PDC drillable float collar & Stage collar. Thread lock all float equipment. Install bow spring centralizers on the bottom 3 joints of casing & every 3rd joint thereafter.
INTERMEDIATE	PDC drillable 10M,P-110 float shoe, 1 joint, PDC drillable 10M, P-110 float collar. Thread lock all float equipment. Maker joint at 8,000'.
LINER	Float shoe, 1 joint, float collar. Thread lock all FE. Maker joints every 1000'.

PROJECT ENGINEER(S): Joe Cawthorn 713-997-5929MANAGER: Tommy Gaydos

EP ENERGY E&P COMPANY, L.P.  
PENFIELD 2-10C4  
SECTION 10, T3S, R4W, U.S.B.&M.

PROCEED NORTH ON PAVED STATE HIGHWAY 87 FROM THE INTERSECTION OF HIGHWAY 87 WITH U.S. HIGHWAY 40 IN DUCHESNE, UTAH APPROXIMATELY 5.96 MILES TO AN INTERSECTION;

TURN RIGHT AND TRAVEL EASTERLY 3.62 MILES ON A GRAVEL ROAD TO THE BEGINNING OF THE ACCESS ROAD;

TURN RIGHT AND FOLLOW ROAD FLAGS SOUTHEASTERLY 0.41 MILES TO THE PROPOSED WELL LOCATION;

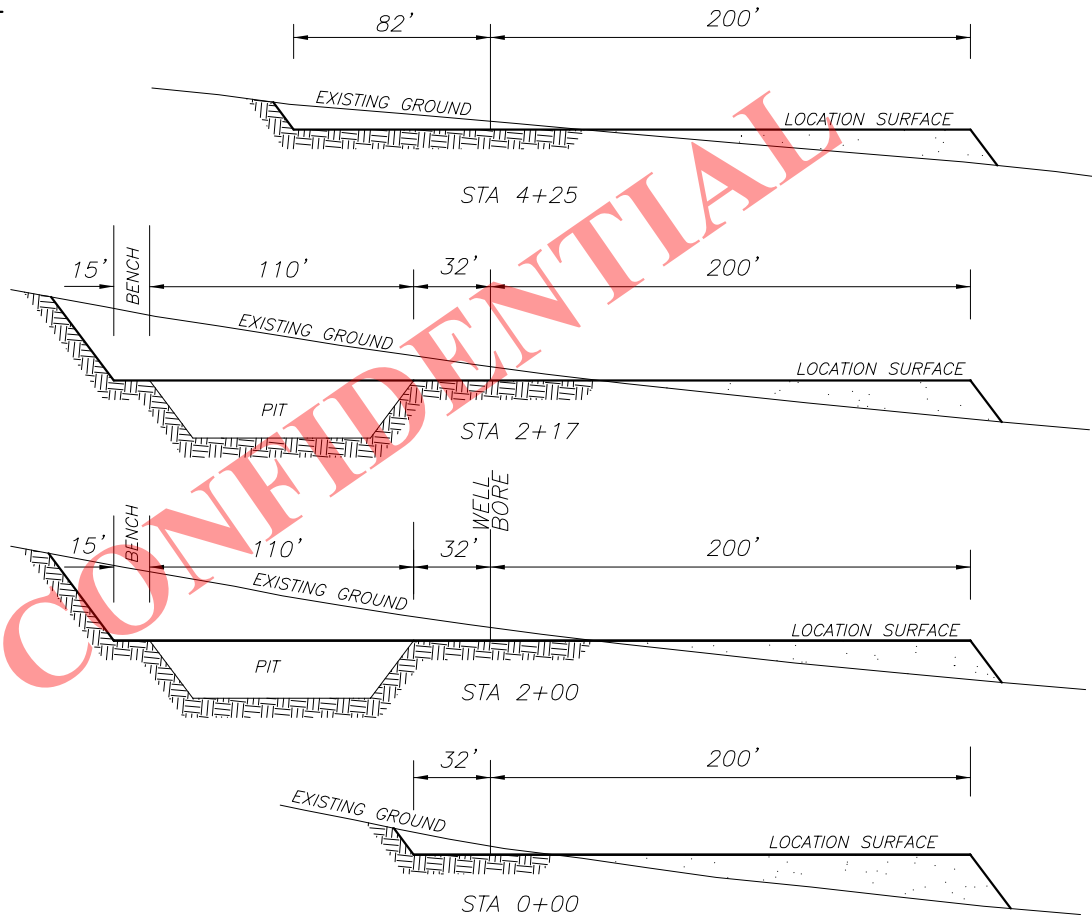
TOTAL DISTANCE FROM DUCHESNE, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 9.99 MILES.



**EP ENERGY E & P COMPANY, L.P.****FIGURE #2****LOCATION LAYOUT FOR****PENFIELD 2-10C4****SECTION 10, T3S, R4W, U.S.B.&M.****901' FNL, 700' FEL**

1"=40'  
X-SECTION  
SCALE  
1"=80'

NOTE: ALL CUT/FILL  
SLOPES ARE 1½:1  
UNLESS OTHERWISE  
NOTED

APPROXIMATE QUANTITIES

TOTAL CUT (INCLUDING PIT) = 20,323 CU. YDS.

PIT CUT = 4572 CU. YDS.

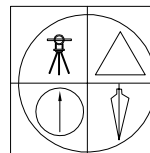
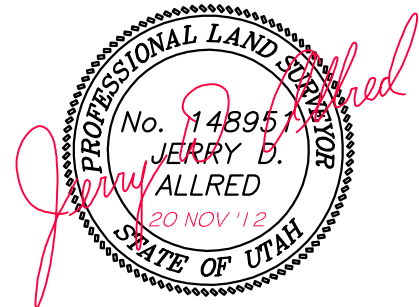
TOPSOIL STRIPPING: (6") = 2814 CU. YDS.

REMAINING LOCATION CUT = 12,937 CU. YDS.

TOTAL FILL = 11,856 CU. YDS.

LOCATION SURFACE GRAVEL=1374 CU. YDS. (4" DEEP)

ACCESS ROAD GRAVEL=584 CU. YDS.



**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESNE, UTAH 84021  
(435) 738-5352

20 NOV 2012

01-128-348

**RECEIVED: March 08, 2013**

RECEIVED: March 08, 2013

LOCATION USE AREA AND ACCESS ROAD, POWER LINE, AND PIPELINE  
CORRIDOR RIGHT-OF-WAY SURVEY FOR  
FP ENERGY I & P COMPANY

EP ENERGY L&P COMPANY  
PENFIELD 2-10C4

SW1/4, SE1/4 of SEC 3  
NW1/4, NE1/4, & NE1/4 of SEC 10,  
T3S, R4W, U.S.B.&M.  
DUCHESSNE COUNTY, UTAH

USE AREA	BOUNDARY DESCRIPTION
1	...
2	...
3	...
4	...
5	...
6	...
7	...
8	...
9	...
10	...
11	...
12	...
13	...
14	...
15	...
16	...
17	...
18	...
19	...
20	...
21	...
22	...
23	...
24	...
25	...
26	...
27	...
28	...
29	...
30	...
31	...
32	...
33	...
34	...
35	...
36	...
37	...
38	...
39	...
40	...
41	...
42	...
43	...
44	...
45	...
46	...
47	...
48	...
49	...
50	...
51	...
52	...
53	...
54	...
55	...
56	...
57	...
58	...
59	...
60	...
61	...
62	...
63	...
64	...
65	...
66	...
67	...
68	...
69	...
70	...
71	...
72	...
73	...
74	...
75	...
76	...
77	...
78	...
79	...
80	...
81	...
82	...
83	...
84	...
85	...
86	...
87	...
88	...
89	...
90	...
91	...
92	...
93	...
94	...
95	...
96	...
97	...
98	...
99	...
100	...

Commencing at the NE Corner of Section 10, Township 3 South, Range 4 West of the Uintah Special Base and Meridian;

Thence South 53°21'38"	West 1000.79 feet to the TRUE POINT OF BEGINNING;
Thence South 65°08'35"	East 485.00 feet;
Thence South 24°51'25"	West 485.00 feet;
Thence North 65°08'35"	West 485.00 feet;
Thence North 24°51'25"	East 485.00 feet to the TRUE POINT OF BEGINNING, containing 5.40 acres.

# ACCESS ROAD, PIPELINE, AND POWER LINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

A 66 feet wide access road, pipeline, and power line corridor right-of-way over portions of Sections 3 & 10 of Township 3 South, Range 4 West of the Uintah Special Base and Meridian, the centerline of which is further described as:

Commencing at the SE Corner of Section 3, Township 3 South, Range 4 West of the Uintah Special Base and Meridian:

Thence North 68°17'25" West 2339.84 feet to the TRUE POINT OF BEGINNING, said point being the centerline of and existing road;

Thence South 40°53'39" East 434.67 feet;

Thence South 24°43'59" East 474.67 feet;

Thence South 36°04'25" East 199.49 feet;

Thence South 36°04'25" East 908.44 feet;

Thence South 34°28'29" East 154.16 feet to the West line of the EP Energy L&P Company Penfield 2-10C well location boundary. Said right-of-way being 2171.44 feet in length, with the sidelines being shortened or elongated to intersect said used boundary and existing road line.

# SURVEYOR'S CERTIFICATE

This is to certify that this plat was prepared from the field notes and electronic data collector files of an actual survey made by me, or under my personal supervision, of the use area and access road, power line, and pipeline corridor right-of-way shown herein, and that the monuments indicated were found or set during said survey, and that this plat accurately represents said survey to the best of my knowledge.

THIS SURVEY WAS PERFORMED USING GLOBAL POSITIONING SYSTEM PROCEDURES AND EQUIPMENT

THE BASIS OF BEARINGS IS GEODETIC NORTH DERIVED FROM G.P.S. OBSERVATIONS AT THE SECTION CORNER LOCATED AT LAT. 40°15'22.90258"N AND LONG. 110°23'21.19760"W USING THE UTAH STATE G.P.S. VIRTUAL REFERENCE STATION CONTROL NETWORK MAINTAINED AND OPERATED BY THE AUTOMATED GEOGRAPHIC REFERENCE CENTER

20 NOV 2012 01-128-348

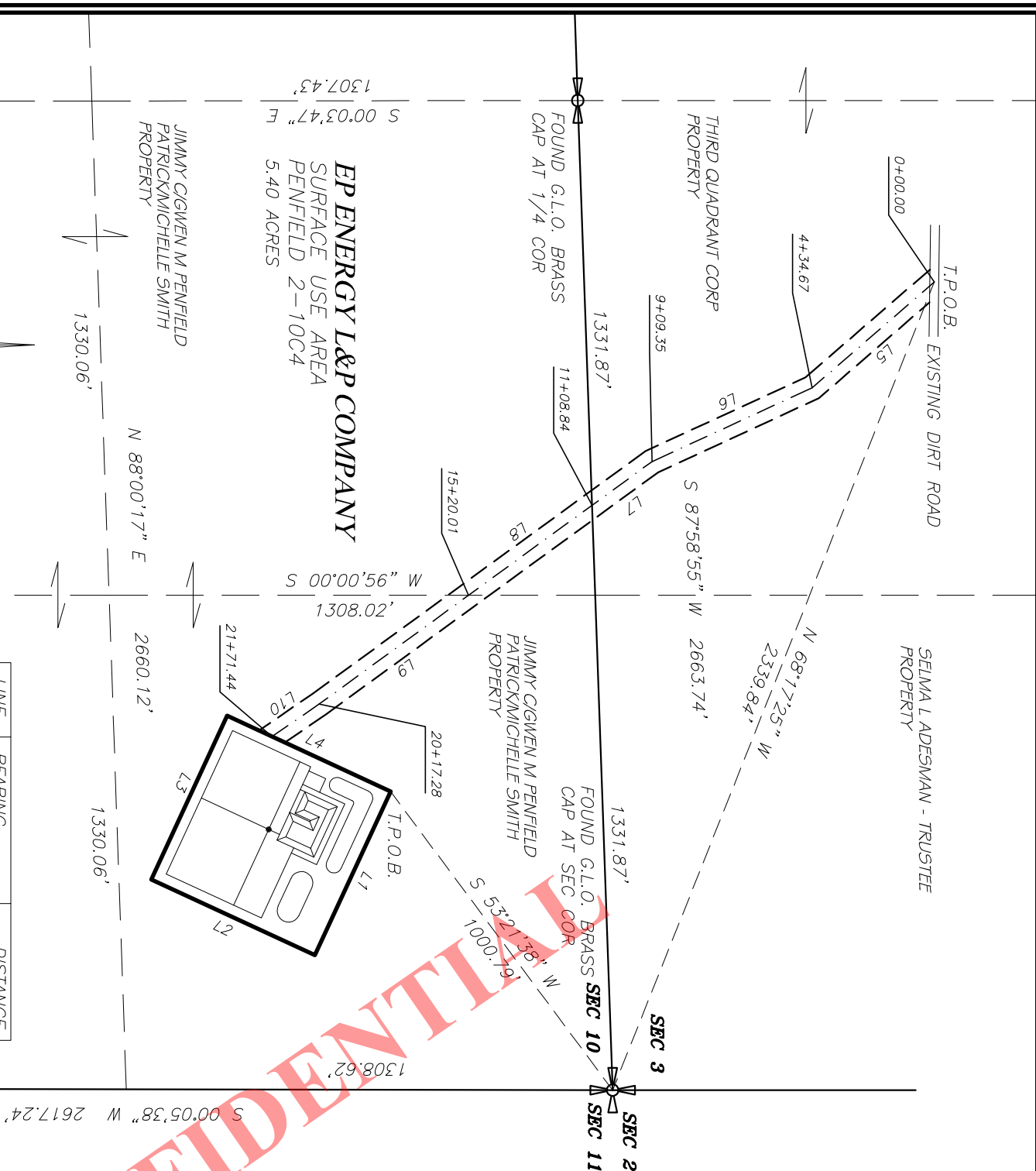
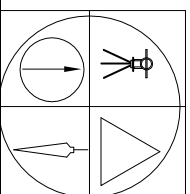


Jerry D. Allred, Professional Land Surveyor,  
Certificate 148951 (Utah)

JERRY D. ALLRED AND ASSOCIATES

## SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCESNE, UTAH 84021  
(435) 738-5352



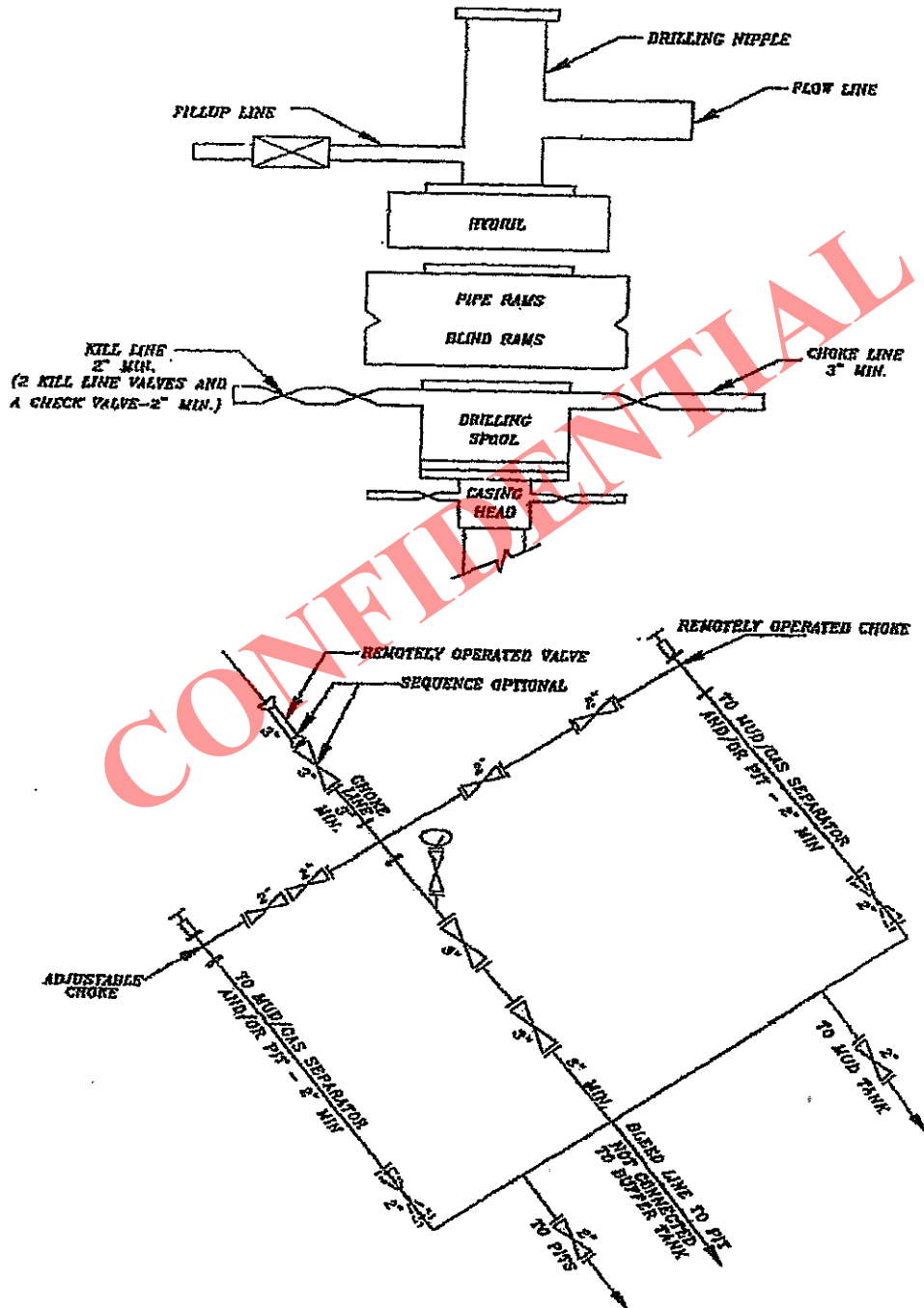
LINE	BEARING	DISTANCE
L1	S 65°08'35" E	485.00'
L2	S 24°51'25" W	485.00'
L3	N 65°08'35" W	485.00'
L4	N 24°51'25" E	485.00'
L5	S 40°53'39" E	434.67'
L6	S 24°43'59" E	474.67'
L7	S 36°04'25" E	199.49'
L8	S 36°04'25" E	411.17'
L9	S 36°04'25" E	497.27'
L10	S 34°28'29" E	154.16'

SCALE: 1"=400'

0' 400' 800'

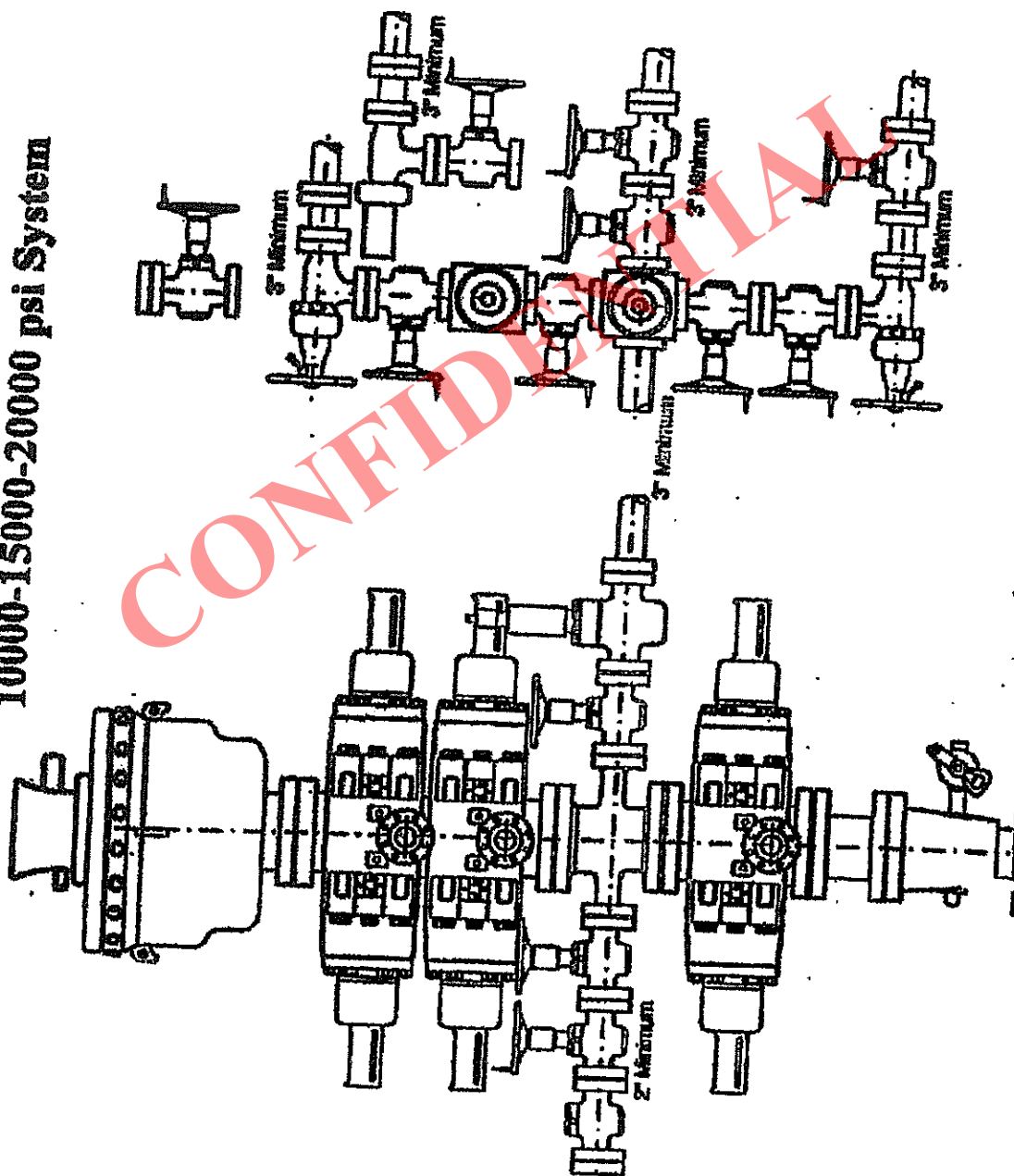
NORTH

# 5M BOP STACK and CHOKE MANIFOLD SYSTEM



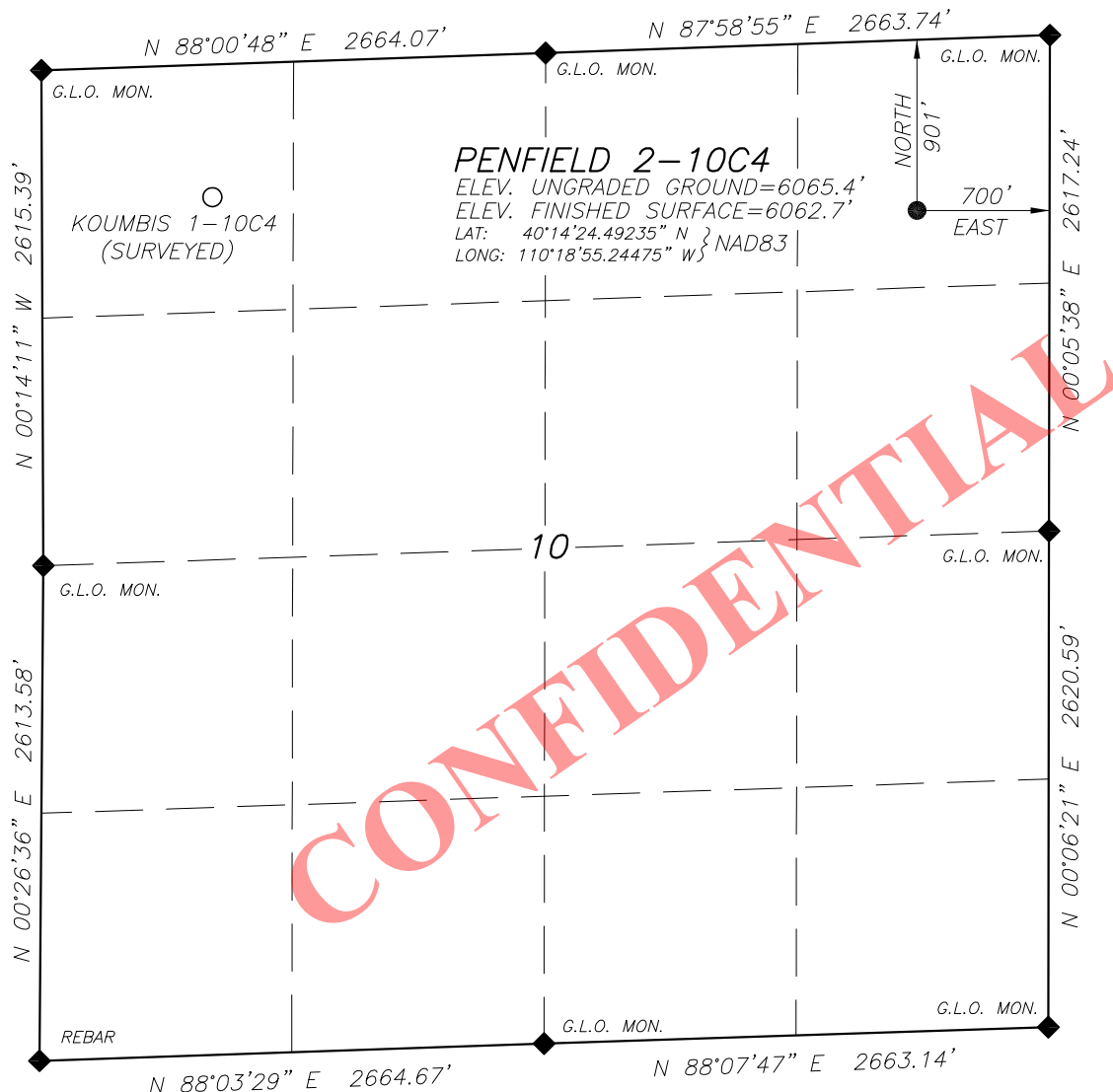


10000-15000-20000 psi System



**EP ENERGY E & P COMPANY, L.P.****WELL LOCATION****PENFIELD 2-10C4**

LOCATED IN THE NE¼ OF THE NE¼ OF  
SECTION 10, T3S, R4W, U.S.B.&M.  
DUCHESNE COUNTY, UTAH



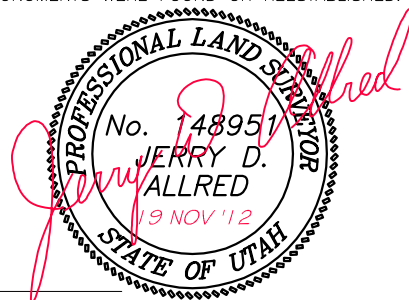
SCALE: 1"=1000'



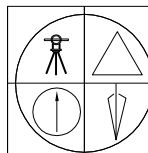
NOTE:  
NAD27 VALUES FOR  
WELL POSITION:  
LAT: 40.240179853° N  
LONG: 110.314635214° W

**SURVEYOR'S CERTIFICATE**

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM THE FIELD NOTES AND ELECTRONIC DATA COLLECTOR FILES OF AN ACTUAL SURVEY PERFORMED BY ME, OR UNDER MY PERSONAL SUPERVISION, DURING WHICH THE SHOWN MONUMENTS WERE FOUND OR REESTABLISHED.



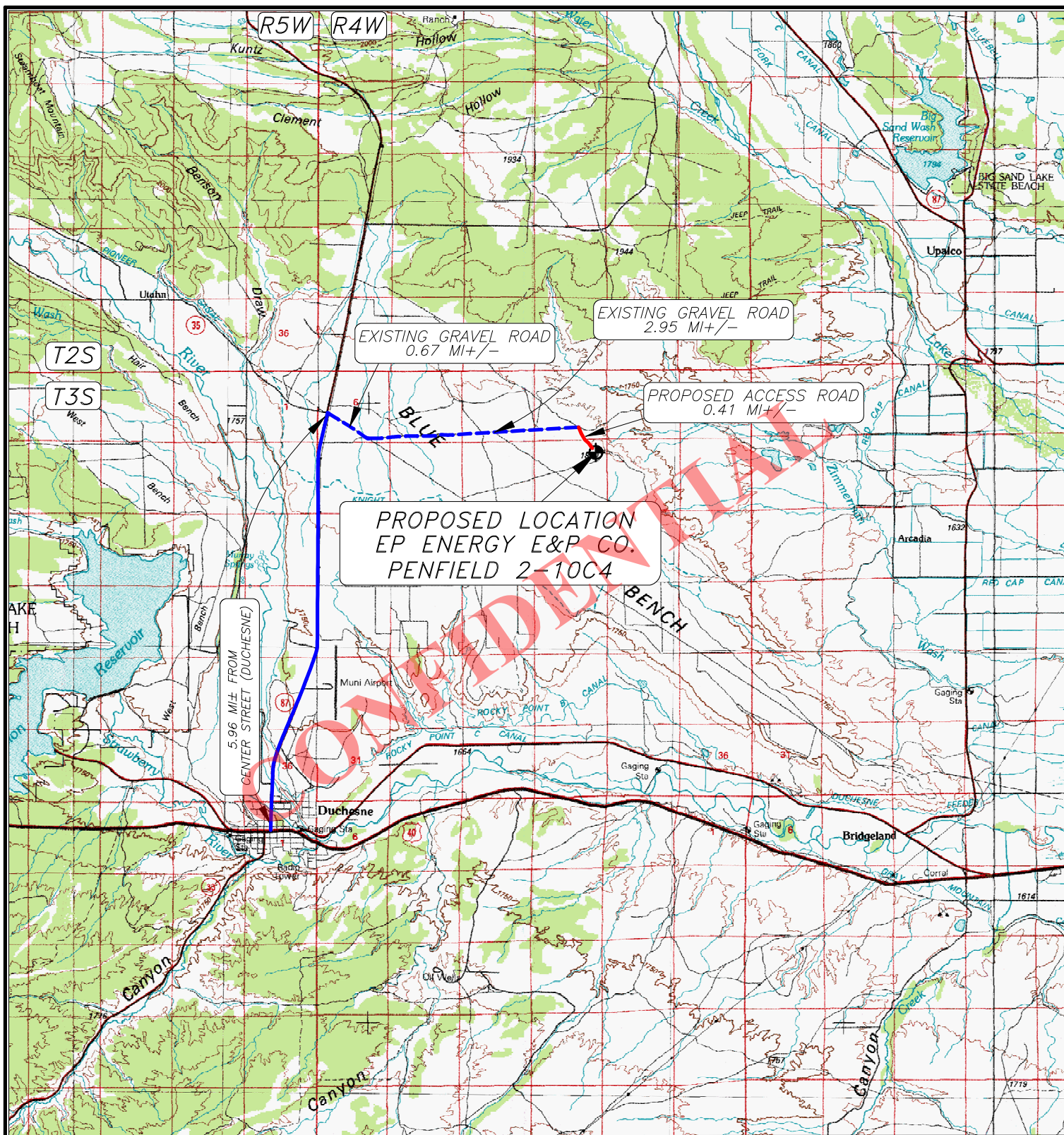
JERRY D. ALLRED, PROFESSIONAL LAND SURVEYOR,  
CERTIFICATE NO. 148951 (UTAH)



**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESNE, UTAH 84021  
(435) 738-5352

**RECEIVED: March 08, 2013**



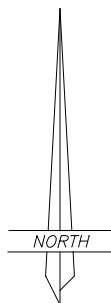
## LEGEND:

⬤ PROPOSED WELL LOCATION

01-128-348

**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESTER, UTAH 84021  
(435) 738-5352



**EP ENERGY E & P COMPANY, L.P.**

PENFIELD 2-10C4

SECTION 10, T3S, R4W, U.S.B.&M.

901' FNL 700' FEL

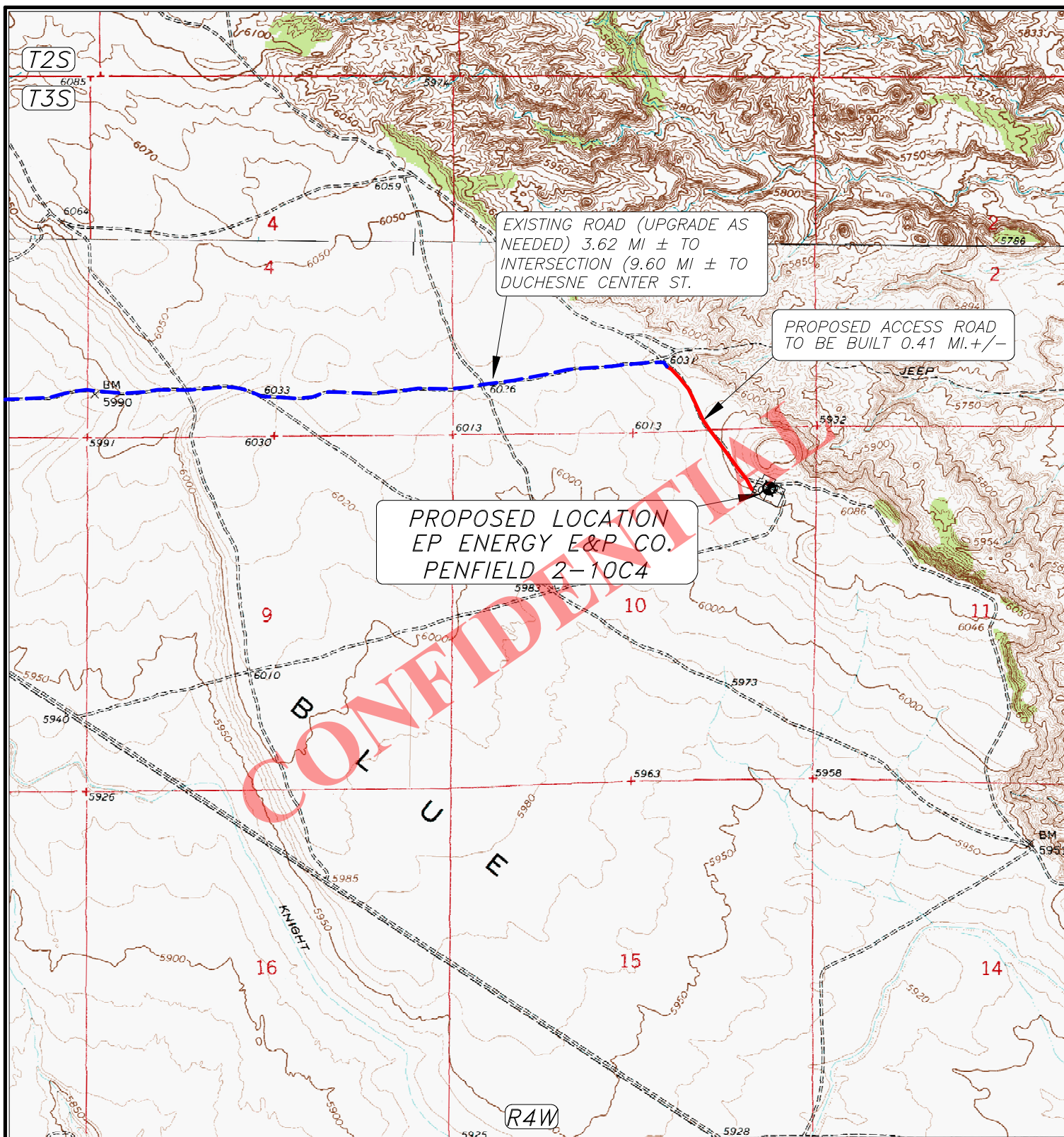
**TOPOGRAPHIC MAP "A"**

SCALE: 1"=10,000'

27 NOV 2012

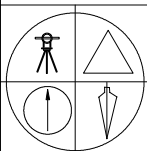
RECEIVED: March 08, 2013



**LEGEND:**

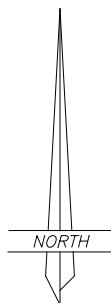
- PROPOSED WELL LOCATION
- PROPOSED ACCESS ROAD
- EXISTING GRAVEL ROAD
- EXISTING PAVED ROAD

01-128-348



**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESNE, UTAH 84021  
(435) 738-5352

**EP ENERGY E & P COMPANY, L.P.**

PENFIELD 2-10C4

SECTION 10, T3S, R4W, U.S.B.&amp;M.

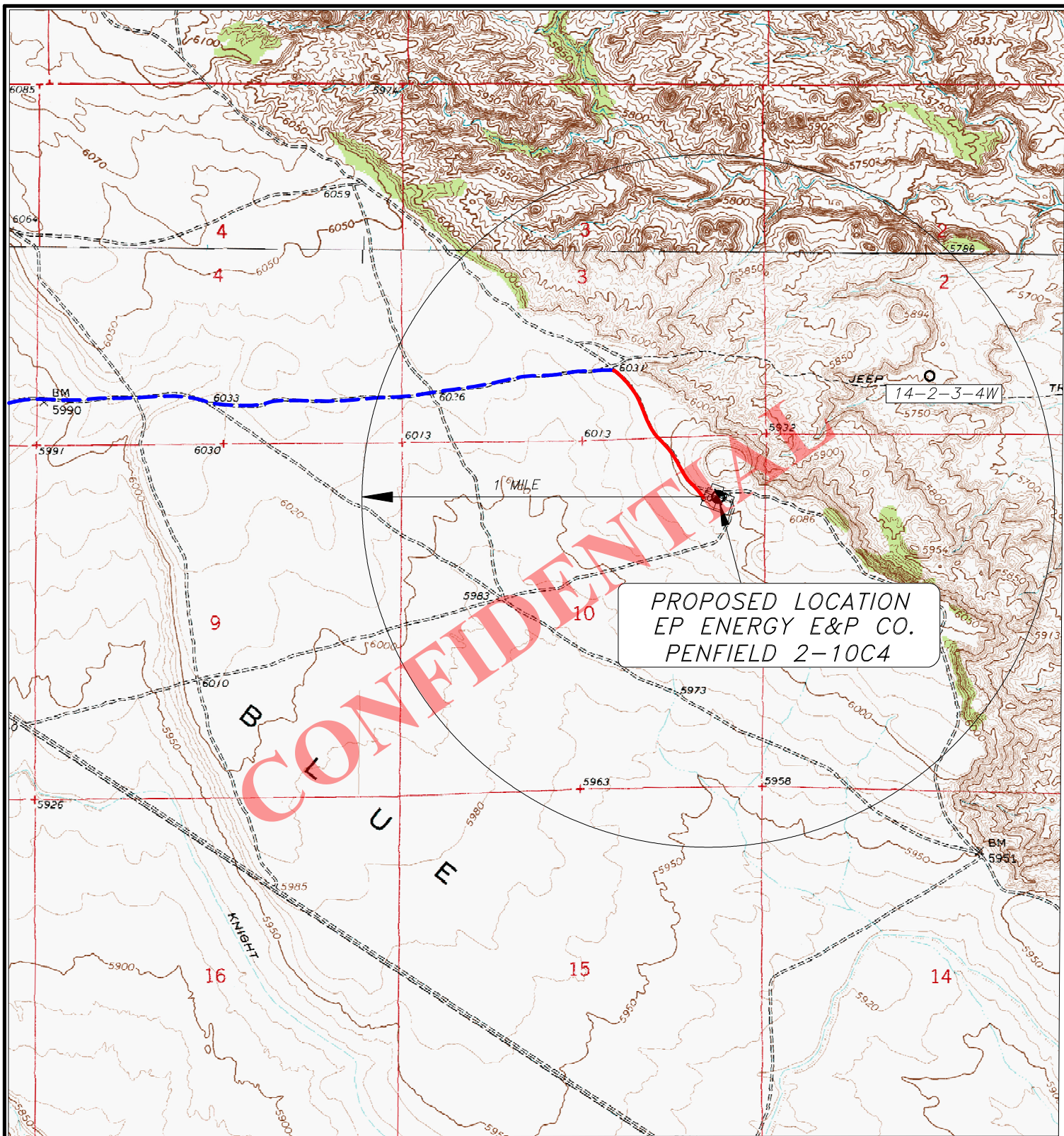
901' FNL 700' FEL

**TOPOGRAPHIC MAP "B"**

SCALE: 1"=2000'  
27 NOV 2012

**RECEIVED:** March 08, 2013



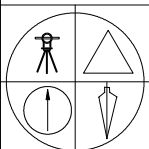


## LEGEND:

⊕ PROPOSED WELL LOCATION

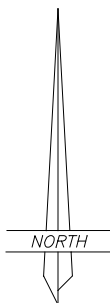
● ○ OTHER WELLS AS LOCATED FROM SUPPLIED MAP

01-128-348



**JERRY D. ALLRED & ASSOCIATES**  
SURVEYING CONSULTANTS

1235 NORTH 700 EAST--P.O. BOX 975  
DUCHESTER, UTAH 84021  
(435) 738-5352



**EP ENERGY E & P COMPANY, L.P.**

PENFIELD 2-10C4

SECTION 10, T3S, R4W, U.S.B.&M.

901' FNL 700' FEL

**TOPOGRAPHIC MAP "C"**

SCALE: 1"=2000'  
27 NOV 2012

RECEIVED: March 08, 2013

**AFFIDAVIT OF EASEMENT LEASE AGREEMENT**

Michael A. Walcher personally appeared before me, and, being duly sworn, deposes and says:

1. My name is Michael A. Walcher. I am a Landman for EP Energy E&P Company, L.P., whose address is 1001 Louisiana Street, Houston, Texas 77002 ("EP Energy").
2. EP Energy is the operator of the proposed Penfield 2-10C4 well ("the Well") to be located in the NE/4 of the NE/4 of Section 10, Township 3 South, Range 4 West, USM, Duchesne County, Utah (the "Drillsite Location"). The surface owners of the Drillsite location are Jimmy C. Penfield and Gwen M. Penfield, whose address is 11861 Uinta Canyon Highway, Roosevelt, Utah 84066, and whose telephone number is 435-353-4365 and Patrick Smith and Michelle Smith, whose address is 34055 SE Sturgeon Street, Scapoose, Oregon 97056 (the "Surface Owners").
3. EP Energy and the Surface Owners have entered into an Damage Settlement and Release dated January 14, 2013, for the Drillsite Location and to cover any and all injuries or damages of every character and description sustained by the Surface Owners or Surface Owners' property as a result of operations associated with the drilling of the Well.

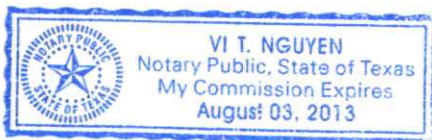
FURTHER AFFIANT SAYETH NOT.

Michael A. Walcher

**ACKNOWLEDGMENT**

STATE OF TEXAS       §  
                                   §  
 COUNTY OF HARRIS   §

This instrument was acknowledged before me on this the 23<sup>rd</sup> day of January, 2013 by Michael A. Walcher as a Landman for EP ENERGY E&P COMPANY, L.P., a Delaware limited partnership, on behalf of said partnership and acknowledged to me that he executed the same as his own free and voluntary act and deed for the uses and purposes therein set forth.



Notary Public in and for State of Texas



EP Energy E&P Company, L.P.

**Related Surface Information**

**1. Current Surface Use:**

- Livestock Grazing and Oil and Gas Production.

**2. Proposed Surface Disturbance:**

- The road will be crown and ditch. Water wings will be constructed on the access road as needed.
- The topsoil will be windrowed and re-spread in the borrow area.
- New road to be constructed will be approximately .41 miles in length and 66 feet wide.
- All equipment and vehicles will be confined to the access road, pad and area specified in the APD.

**3. Location Of Existing Wells:**

- Existing oil, gas wells within one (1) mile radius of proposed well are provided in EXHIBIT C.

**4. Location And Type Of Drilling Water Supply:**

- Drilling water: Duchesne City Water

**5. Existing/Proposed Facilities For Productive Well:**

- There are no existing facilities that will be utilized for this well.
- A pipeline corridor .41 miles will parallel the proposed access road. The corridor will contain one 4 inch gas line and one 2 inch gas line and one 2 inch Salt Water disposal line. Rehabilitation of unneeded, previously disturbed areas will consist of backfilling and contouring the reserve pit area; backsloping and contouring all cut and fill slopes. These areas will be reseeded. Refer to plans for reclamation of surface for details.
- Upgrade and maintain access roads and drainage control structures (e.g., culverts, drainage dips, ditching, etc.) as necessary to prevent soil erosion and accommodate safe, year-round traffic.

**6. Construction Materials:**

- Native soil from road and location will be used for construction materials along with gravel and/or scoria road base material. In the event that conditions should necessitate graveling of all or part of the access road and location, surfacing materials will be purchased from commercial suppliers in the marketing area.

**7. Methods For Handling Waste Disposal:**

- The reserve pit will be designed to prevent the collection of surface runoff and will be constructed with a minimum of ½ the total depth below the original ground surface on the lowest point with the pit. The pit will be lined with a 20-mil polyethylene to prevent leakage of fluids. The liner will be rolled into place and secured at the ends, i.e. buried on top of the pit berms. Prior to use, the reserve pit will be fenced on three sides; the fourth side will be fenced at the time the rig is removed. Drilling fluids, cuttings and produced water will be contained in the reserve pit (trash will be placed in the trash cage). Fluids in the reserve pit will be allowed to evaporate prior to pit burial.
- Garbage and other trash will be contained in the portable trash cage and hauled off the location to an authorized disposal site. Any trash on the pad will be cleaned up prior to the rig moving off location and hauled to an authorized disposal site.
- Sewage will be handled in Portable Toilets.
- Produced water will be placed in the reserve pit for a period not to exceed ninety days after initial production. Any hydrocarbons produced during completion work will be contained in test tanks and removed from the location at a later date.
- Water from the reserve pit may be used for drilling of additional wells. The water will be trucked along access roads as approved in pertinent APD's

**8. Ancillary Facilities:**

- There will be no ancillary facilities associated with this project.

9. **Surface Reclamation Plans:**

Backfilling of the pits will be done when dry. In the event of a dry hole, the location will be re-contoured, the topsoil will be distributed evenly over the entire location, and the seedbed prepared.

- Seed will be planted after September 15<sup>th</sup>, and prior to ground frost, or seed will be planted after the frost has left and before May 15<sup>th</sup>. Slopes to steep for machinery will be hand broadcast and raked with twice the specified amount of seed.
  1. The construction program and design are on the attached cut, fill and cross sectional diagrams.
  2. Prior to construction, all topsoil will be removed from the entire site and stockpiled. Topsoil for this site is the first 6 inches of soil materials.
  3. After the location has been reshaped and after redistributing the topsoil, the operator will rip and scarify the drilling platform and access road on the contour, to a depth of at least 12 inches.
- Rehabilitation will begin upon the completion of the drilling. Complete rehabilitation will depend on weather conditions and the amount of time required to dry the reserve pit.
  1. All rehabilitation work including seeding will be completed as soon as weather and the reserve pit conditions are appropriate.
  2. Landowner will be contacted for rehabilitation requirements.

10. **Surface Ownership:**

Jimmy C. Penfield and Gwen M. Penfield  
11861 Uinta Canyon Highway  
Roosevelt, Utah 84066  
435-353-4365

Patrick Smith and Michelle Smith  
34055 SE Sturgeon Street  
Scappoose, Oregon 97056

**Other Information:**

- The surface soil consists of clay, and silt.
- Flora – vegetation consists of the following: Sagebrush, Juniper and prairie grasses.
- Fauna – antelope, deer, coyotes, raptors, small mammals, and domestic grazing animals.
- Current surface uses – Livestock grazing and mineral exploration and production.

• **Operator and Contact Persons:**

**Construction and Reclamation:**

EP Energy E&P Company, L.P.  
Wayne Garner  
PO Box 410  
Altamont, Utah 84001  
435-454-3394 – Office  
435-823-1490 – Cell

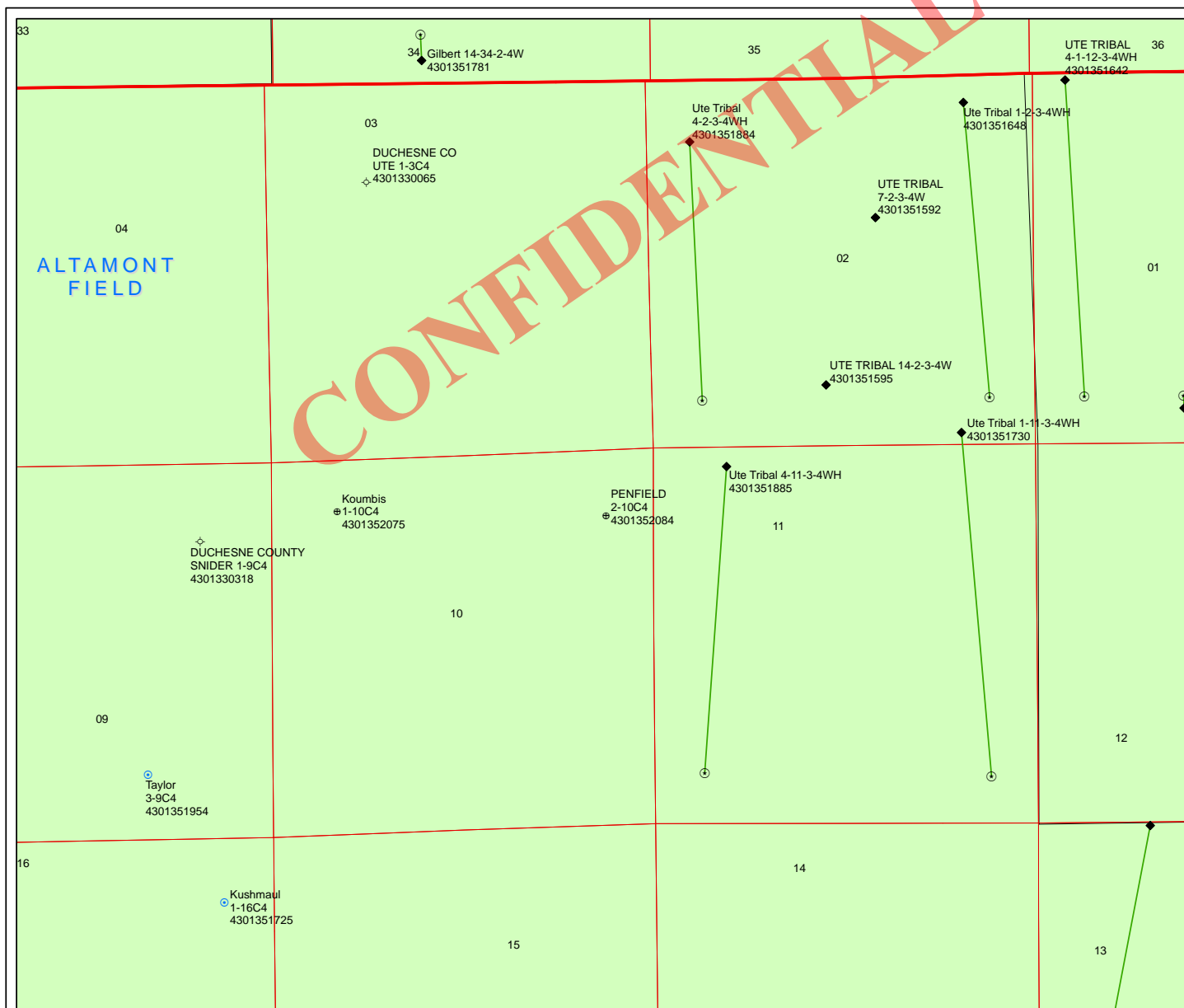
**Regarding This APD**

EP Energy E&P Company, L.P.  
Lisa Morales  
1001 Louisiana, Rm 2628C  
Houston, Texas 77002  
713-997-3587 – Office

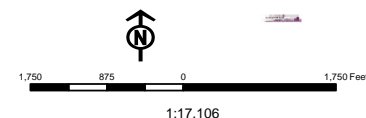
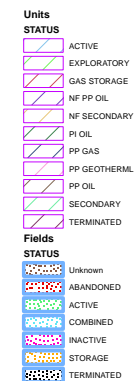
**Drilling**

EP Energy E&P Company, L.P.  
Joe Cawthorn – Drilling Engineer  
1001 Louisiana, Rm 2523B  
Houston, Texas 77002  
713-997-5929 – office  
832-465-2882 – Cell





**API Number: 4301352084**  
**Well Name: PENFIELD 2-10C4**  
**Township T03.0S Range R04.0W Section 10**  
**Meridian: UBM**  
 Operator: EP ENERGY E&P COMPANY, L.P.  
 Map Prepared:  
 Map Produced by Diana Mason



Well Name	EP ENERGY E&P COMPANY, L.P. PENFIELD 2-10C4 43013520840000			
String	Cond	Surf	I1	L1
Casing Size(in)	13.375	9.625	7.000	4.500
Setting Depth (TVD)	800	3700	9500	12400
Previous Shoe Setting Depth (TVD)	0	800	3700	9500
Max Mud Weight (ppg)	8.8	9.5	10.6	12.0
BOPE Proposed (psi)	1000	5000	5000	10000
Casing Internal Yield (psi)	2730	5750	11220	12410
Operators Max Anticipated Pressure (psi)	7738			12.0

Calculations	Cond String	13.375	"	
Max BHP (psi)	.052*Setting Depth*MW=	366		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	270	YES	4.5" by 20.0" rotating head
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	190	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	190	NO	OK
Required Casing/BOPE Test Pressure=		800	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient	

Calculations	Surf String	9.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	1828		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	1384	YES	4.5" by 13 3/8" Smith rotating head &
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	1014	YES	5M annular
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	1190	NO	OK
Required Casing/BOPE Test Pressure=		3700	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		800	psi *Assumes 1psi/ft frac gradient	

Calculations	I1 String	7.000	"	
Max BHP (psi)	.052*Setting Depth*MW=	5236		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4096	YES	5M BOP stack, 5M Annular, 5M kill lines,
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3146	YES	choke manifold
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	3960	NO	OK
Required Casing/BOPE Test Pressure=		7854	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		3700	psi *Assumes 1psi/ft frac gradient	

Calculations	L1 String	4.500	"	
Max BHP (psi)	.052*Setting Depth*MW=	7738		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	6250	YES	10M BOE w/rotating head, 5M annular, blind
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	5010	YES	rams & mud cross
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	7100	YES	OK
Required Casing/BOPE Test Pressure=		8687	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		9500	psi *Assumes 1psi/ft frac gradient	



Well name:	<b>43013520840000 Penfield 2-10C4</b>	
Operator:	<b>EP ENERGY E&amp;P COMPANY, L.P.</b>	
String type:	Conductor	Project ID: 43-013-52084
Location:	DUCHESNE COUNTY	

**Design parameters:****Collapse**

Mud weight: 8.800 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 85 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 242 ft

**Burst**

Max anticipated surface pressure: 270 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 366 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

**Non-directional string.**

Tension is based on air weight.  
Neutral point: 696 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	800	13.375	54.50	J-55	ST&C	800	800	12.49	9926
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	366	1130	3.090	366	2730	7.46	43.6	514	11.79 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 16, 2013  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 800 ft, a mud weight of 8.8 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43013520840000 Penfield 2-10C4</b>		
Operator:	<b>EP ENERGY E&amp;P COMPANY, L.P.</b>		
String type:	Surface	Project ID:	43-013-52084
Location:	DUCHESNE COUNTY		

**Design parameters:****Collapse**

Mud weight: 9.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 126 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 5 ft

**Burst**

Max anticipated surface pressure: 2,886 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 3,700 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 3,177 ft

**Non-directional string.****Re subsequent strings:**

Next setting depth: 9,500 ft  
Next mud weight: 10.600 ppg  
Next setting BHP: 5,231 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 3,700 ft  
Injection pressure: 3,700 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	3700	9.625	40.00	N-80	LT&C	3700	3700	8.75	47082
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1826	3090	1.692	3700	5750	1.55	148	737	4.98 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 16, 2013  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 3700 ft, a mud weight of 9.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43013520840000 Penfield 2-10C4</b>	
Operator:	<b>EP ENERGY E&amp;P COMPANY, L.P.</b>	
String type:	Intermediate	Project ID: 43-013-52084
Location:	DUCHESNE COUNTY	

**Design parameters:****Collapse**

Mud weight: 10.600 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 207 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 5,419 ft

**Burst**

Max anticipated surface pressure: 5,002 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 7,092 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 7,976 ft

**Non-directional string.****Re subsequent strings:**

Next setting depth: 12,400 ft  
Next mud weight: 12.000 ppg  
Next setting BHP: 7,730 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 9,500 ft  
Injection pressure: 9,500 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	9500	7	29.00	P-110	LT&C	9500	9500	6.059	107280
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5231	8530	1.631	7092	11220	1.58	275.5	797	2.89 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 16, 2013  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 9500 ft, a mud weight of 10.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43013520840000 Penfield 2-10C4</b>	
Operator:	<b>EP ENERGY E&amp;P COMPANY, L.P.</b>	
String type:	Production Liner	Project ID: 43-013-52084
Location:	DUCHESNE COUNTY	

**Design parameters:****Collapse**

Mud weight: 12.000 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 248 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

**Burst:**

Design factor 1.00

Cement top: 9,973 ft

**Burst**

Max anticipated surface pressure: 5,002 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 7,730 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Liner top: 9,300 ft

**Non-directional string.**

Tension is based on air weight.  
Neutral point: 11,851 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	3100	4.5	13.50	P-110	LT&C	12400	12400	3.795	17371
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	7730	10680	1.382	7730	12410	1.61	41.8	338	8.08 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: April 16, 2013  
Salt Lake City, Utah

**Remarks:**

For this liner string, the top is rounded to the nearest 100 ft. Collapse is based on a vertical depth of 12400 ft, a mud weight of 12 ppg. The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

# **ON-SITE PREDRILL EVALUATION**

## **Utah Division of Oil, Gas and Mining**

**Operator** EP ENERGY E&P COMPANY, L.P.  
**Well Name** PENFIELD 2-10C4  
**API Number** 43013520840000      **APD No** 7770      **Field/Unit** ALTAMONT  
**Location:** 1/4,1/4 NENE      **Sec** 10      **Tw** 3.0S      **Rng** 4.0W      901 FNL 700 FEL  
**GPS Coord (UTM)**      **Surface Owner** JIMMY C & GWEN M PENFIELD

### **Participants**

Jim & Gwen Penfield (Surface owners); Wayne Garner (E&P Energy); Dennis Ingram (DOGM)

### **Regional/Local Setting & Topography**

The proposed Penfield 2-10C4 is found north of Duchesne Utah on Blue Bench and east of U. S. Highway 87 in relatively flat, undeveloped lands. To find location, a person should drive north on Highway 87 from the intersection of U.S. Highway 40 and Highway 87 in Duchesne for 5.96 miles, then turn east and travel southeasterly on gravel or dirt road for another 3.62 miles. Surface topography at the well pad slopes south/southwesterly, and is open, short, sagebrush rangeland with sparse cedar tree covering. Most of the lands from the northwest to the south of this well site is open, bench-like rangelands typical of the Blue Bench area. However, several hundred feet to the northeast and east this surface drops off into narrow canyons and shelves that drain into the Lake Fork River Drainage system west of Arcadia. This drainage system drains the South Slope of the Uinta Mountains, across Talmage in a southeasterly direction into lowlands adjacent and north of the Duchesne River Drainage.

### **Surface Use Plan**

#### **Current Surface Use**

Recreational  
Wildlife Habitat

#### **New Road Miles**

0.41

#### **Well Pad**

**Width** 342      **Length** 425

#### **Src Const Material**

Onsite

#### **Surface Formation**

UNTA

#### **Ancillary Facilities** N

### **Waste Management Plan Adequate?**

Y

### **Environmental Parameters**

#### **Affected Floodplains and/or Wetlands** N

#### **Flora / Fauna**

short, sparse cedar trees, sagebrush covering, bunch grass, prickly pear cactus; mule deer, coyote, fox, rabbit, historical sage grouse habitat, prairie dog, eagle and hawk, smaller mammals and birds native to region

#### **Soil Type and Characteristics**

Reddish-brown sandy loam with some clays present

#### **Erosion Issues** Y

Potential erosion after removing vegetation cover on sloped areas



**Sedimentation Issues Y****Site Stability Issues N****Drainage Diversion Required? N****Berm Required? Y**

Location

**Erosion Sedimentation Control Required? N****Paleo Survey Run? N    Paleo Potential Observed? N    Cultural Survey Run? N    Cultural Resources? N****Reserve Pit****Site-Specific Factors****Site Ranking**

<b>Distance to Groundwater (feet)</b>	>200	0
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	>1320	0
<b>Native Soil Type</b>	High permeability	20
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
<b>Final Score</b>		25    1 Sensitivity Level

**Characteristics / Requirements**

Proposed reserve pit on the north side of location in cut, measuring 150' long by 110' wide by 12' deep, having prevailing winds from the west

**Closed Loop Mud Required?    Liner Required? Y    Liner Thickness 20    Pit Underlayment Required?**

**Other Observations / Comments**

Surface slopes to the west, densely covered sagebrush surface, existing east/west transmission or power line south of county road, access road will cross under power line, existing jeep trail or two track road crosses just north of proposed location, and landowner requests that the road be put back after the reserve pit is closed.

Dennis Ingram  
Evaluator

4/3/2013  
Date / Time

# Application for Permit to Drill

## Statement of Basis

### Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
7770	43013520840000	LOCKED	OW	P	No
<b>Operator</b>	EP ENERGY E&P COMPANY, L.P.		<b>Surface Owner-APD</b>	JIMMY C & GWEN M PENFIELD	
<b>Well Name</b>	PENFIELD 2-10C4		<b>Unit</b>		
<b>Field</b>	ALTAMONT		<b>Type of Work</b>	DRILL	
<b>Location</b>	NENE 10 3S 4W U 901 FNL (UTM) 558243E 4454629N		700 FEL GPS Coord		

#### Geologic Statement of Basis

EP proposes to set 800 feet of conductor and 3,700 feet of surface casing both of which will be cemented to surface. The surface and intermediate holes will be drilled utilizing fresh water mud. The estimated depth to the base of moderately saline ground water is 2,200 feet. A search of Division of Water Rights records indicates that there are 5 water wells within a 10,000 foot radius of the center of Section 10. Wells range between 285 and 650 feet in depth and are used for irrigation, stock watering and domestic. The wells probably produce from the Duchesne River Formation. The Duchesne River Formation is made up of sandstones with interbedded shales and is the most prominent fresh water aquifer in the area. The proposed casing and cement program should adequately protect ground water in this area.

Brad Hill  
APD Evaluator

4/11/2013  
Date / Time

#### Surface Statement of Basis

A presite was scheduled and performed on April 3, 2013 to take input and address issues regarding the permitting, construction and drilling of the Penfield 2-10C4 well. Jim & Gwen Penfield were shown as landowners of record and were therefore invited to the presite. The Penfield's did attend, and have entered into a surface use agreement with E&P Energy.

The surface slopes southwesterly across the length of the proposed location, having 17.6 feet of cut on the high side of the reserve pit and 10.5 feet of fill at the southwestern corner of the location. The surface has sparse, sagebrush covering with a few short cedar trees, and is void of any drainage issues. A reserve pit is proposed along the eastern side of the location and will need a 20 mil synthetic liner installed to prevent drilling fluids from leaching into the sandy soils below. Surface soil stockpile will be stored off the eastern side of location between corners 5 and 6. The location shall also be bermed to prevent fluids from leaving the well site.

Dennis Ingram  
Onsite Evaluator

4/3/2013  
Date / Time

#### Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 20 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Pits	The reserve pit should be located on the north, northeast side of the location.

RECEIVED: April 22, 2013

API Well Number: 43013520840000

Surface

The well site shall be bermed to prevent fluids from leaving the pad.

**CONFIDENTIAL**

**RECEIVED:** April 22, 2013

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 3/8/2013

API NO. ASSIGNED: 43013520840000

WELL NAME: PENFIELD 2-10C4

OPERATOR: EP ENERGY E&amp;P COMPANY, L.P. (N3850)

PHONE NUMBER: 713 997-3587

CONTACT: Lisa Morales

PROPOSED LOCATION: NENE 10 030S 040W

Permit Tech Review: ☒

SURFACE: 0901 FNL 0700 FEL

Engineering Review: ☒

BOTTOM: 0901 FNL 0700 FEL

Geology Review: ☒

COUNTY: DUCHESNE

LATITUDE: 40.24008

LONGITUDE: -110.31527

UTM SURF EASTINGS: 558243.00

NORTHINGS: 4454629.00

FIELD NAME: ALTAMONT

LEASE TYPE: 4 - Fee

LEASE NUMBER: Fee

PROPOSED PRODUCING FORMATION(S): GREEN RIVER(LWR)-WASATCH

SURFACE OWNER: 4 - Fee

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

☒ PLAT☒ Bond: STATE/FEE - 400JU0708☐ Potash☐ Oil Shale 190-5☐ Oil Shale 190-3☐ Oil Shale 190-13☒ Water Permit: Duchesne City☐ RDCC Review:☒ Fee Surface Agreement☐ Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

☐ R649-2-3.

Unit:

☐ R649-3-2. General☐ R649-3-3. Exception☒ Drilling Unit

Board Cause No: Cause 139-90

Effective Date: 5/9/2012

Siting: 4 Prod LGRRV-WSTC Wells

☐ R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations: 5 - Statement of Basis - bhill  
8 - Cement to Surface -- 2 strings - hmadonald  
12 - Cement Volume (3) - ddoucet

RECEIVED: April 22, 2013



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** PENFIELD 2-10C4  
**API Well Number:** 43013520840000  
**Lease Number:** Fee  
**Surface Owner:** FEE (PRIVATE)  
**Approval Date:** 4/22/2013

### Issued to:

EP ENERGY E&P COMPANY, L.P., 1001 Louisiana, Houston, TX 77002

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 139-90. The expected producing formation or pool is the GREEN RIVER(LWR)-WASATCH Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### Conditions of Approval:

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Cement volumes for the 13 3/8" and 9 5/8" casing strings shall be determined from actual hole diameters in order to place cement from the pipe setting depths back to the surface.

Cement volume for the 7" intermediate string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to 3200' MD as indicated in the submitted drilling plan.

### Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet
- Plug and abandonment of the well - contact Dustin Doucet

### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website  
at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program  
- contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

### **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-231-8956 - after office hours

### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

**Approved By:**

A handwritten signature in black ink, appearing to read "J. Rogers", written over a horizontal line.

For John Rogers  
Associate Director, Oil & Gas



NE NR 5-10 T03S R04W

CONFIDENTIAL

**24 Hr notice of Testing 13 5/8" 3000 psi Diverter System on the Penfield 2-10C4****RLANDRIG008** <RLANDRIG008@epenergy.com>

Thu, Jul 11, 2013 at 8:51 PM

To: Alexis Huefner <alexishuefner@utah.gov>, Dennis Ingram <dennisingram@utah.gov>, Carol Daniels <caroldaniels@utah.gov>, "Evans, Perry (Contractor)" <Perry.Evans@epenergy.com>, "Gaydos, Tommy L" <Tommy.Gaydos@epenergy.com>, "MacAfee, Bradley D" <Brad.MacAfee@epenergy.com>, "Gomez, Maria S" <Maria.Gomez@epenergy.com>, "Mares, Sergio I" <Sergio.Mares@epenergy.com>, "Morales, Lisa" <Lisa.Morales@epenergy.com>

July 11, 2013

Well: Penfield 2-10C4

API # 43013520840000

County: Duchesne

Rig: Precision Drilling Rig #404

Steve Murphy

James H Wilson

RLANDRIG008@ELPASO.COM

RIG PHONE 435-823-1726

HAND HELD 435-823-1725

PRECISION DRILLING RIG 404

RECEIVED

JUL 11 2013

DIV. OF OIL, GAS &amp; MINING



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: Fee
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Oil Well	8. WELL NAME and NUMBER: PENFIELD 2-10C4	
2. NAME OF OPERATOR: EP ENERGY E&P COMPANY, L.P.	9. API NUMBER: 43013520840000	
3. ADDRESS OF OPERATOR: 1001 Louisiana, Houston, TX, 77002	PHONE NUMBER: 713 997-5038 Ext	9. FIELD and POOL or WILDCAT: ALTAMONT
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0901 FNL 0700 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NENE Section: 10 Township: 03.0S Range: 04.0W Meridian: U	COUNTY: DUCHESNE	
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <b>8/16/2013</b>	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input type="text" value="Initial Completion"/>
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:			
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input type="checkbox"/> DRILLING REPORT Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Please see attached for details.

**Approved by the  
 Utah Division of  
 Oil, Gas and Mining**

**Date:** August 15, 2013

**By:** *Derek Duff*

NAME (PLEASE PRINT) Maria S. Gomez	PHONE NUMBER 713 997-5038	TITLE Principal Regulatory Analyst
SIGNATURE N/A		DATE 8/14/2013

**Penfield 2-10 C4  
Initial Completion  
43013520840000**

**The following precautions will be taken until the RCA for the Conover is completed:**

1. Review torque turning and running of the 7" and 5" liner of anomalies.
2. Test and chart casing for 30 minutes, noting pressure if any on surface casing.
3. Test all lubricators, valves and BOP's to working pressure.
4. Wellhead isolation tools will continue to be used to isolate the wellhead during the frac.
5. Monitor the surface casing during frac:
  - a. Lay a flowline to the flow back tank and keep the valve open.
  - b. This line will remain in place until a wire line set retrievable packer is in place isolating the 5" casing from the 7" after the frac.
6. 2 7/8" tubing will be run to isolate the 7" casing during the flow back of the well.
7. Well pressure and annulus pressure would be monitored during this time until the well is ready for pump.

**Completion Information (Wasatch Formation)**

- |          |  |
|----------|--|
| Stage 1: | RU WL unit with 10K lubricator and test to 10000 psi with water. Perforations from ~11,704' – 11,902' with ~5000 gallons of 15% HCL acid, ~3,000# of 100 mesh sand and ~120,000# PowerProp 20/40.  |
| Stage 2: | RU 10K lubricator and test to 10000 psi with water. Set 10K CBP @ ~11,620'. Test CBP and casing to 8500 psi. Perforations from ~11,303' – 11,611' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~140,000# PowerProp 20/40.             |
| Stage 3: | RU WL unit with 10K lubricator and test to 10000 psi with water. Set 10K CBP @ ~11,280'. Test CBP and casing to 8500 psi. Perforations from ~10,990 – 11,259' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~155,000# PowerProp 20/40. |
| Stage 4: | RU 10K lubricator and test to 10000 psi with water. Set 10K CBP @ ~10,980'. Test CBP and casing to 8500 psi. Perforations from ~10,803' – 10,970' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~155,000# PowerProp 20/40.             |

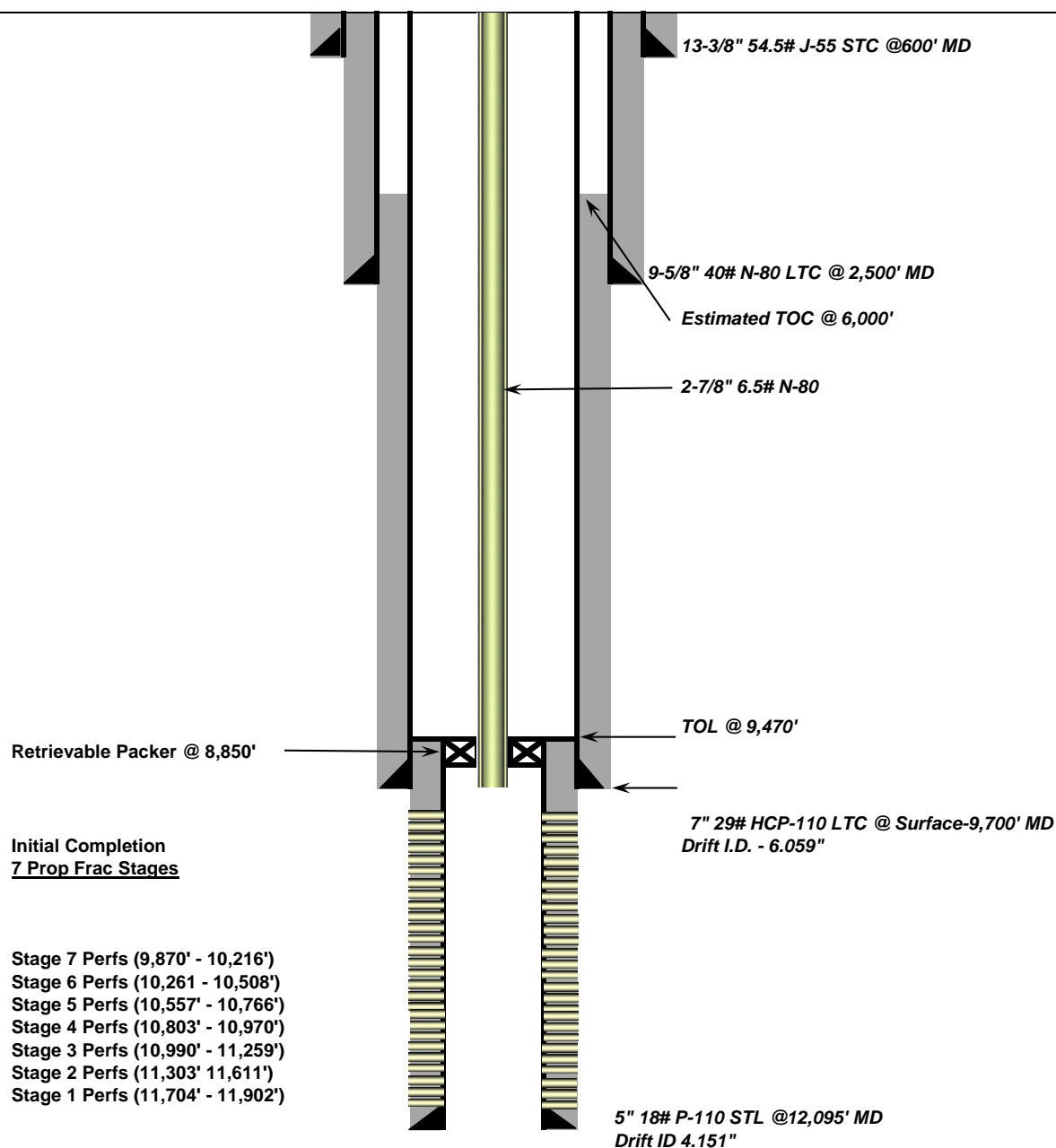
- Stage 5: RU 10K lubricator and test to 10000 psi with water. Set 10K CBP @ ~10,775'. Test CBP and casing to 8500 psi. Perforations from ~10,557' – 10,766' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~155,000# PowerProp 20/40.
- Stage 6: RU 10K lubricator and test to 10000 psi with water. Set 10K CBP @ ~10,512'. Test CBP and casing to 8500 psi. Perforations from ~10,261' – 10,508' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~155,000# PowerProp 20/40.
- Stage 7: RU 10K lubricator and test to 10000 psi with water. Set 10K CBP @ ~10,225'. Test CBP and casing to 8500 psi. Perforations from ~9,870' – 10,216' with ~5000 gallons of 15% HCL acid, ~3000# of 100 mesh sand and ~165,000# PowerProp 20/40.



**Initial Completion Wellbore Schematic**

Company Name: EP Energy  
Well Name: **Penfield 2-10 C4**  
Field, County, State: Altamont - Bluebell, Duchesne, Utah  
Surface Location: Lat: 40° 14' 24.49235" N Long: 110° 18' 55.24475" W  
Producing Zone(s): Wasatch

Last Updated: **8/8/2013**  
By: Robert Fondren  
TD: 12,095'  
BHL: \_\_\_\_\_  
Elevation: \_\_\_\_\_



**CONFIDENTIAL****24 HR NOTICE OF RUN'G AND CMT'G OF 9 5/8" SFC CSG - TESTING OF 11" 10 K BOPE**

35 4W 10

**RLANDRIG008** <RLANDRIG008@epenergy.com>

Sun, Jul 14, 2013 at 5:15 PM

To: Alexis Huefner <alexishuefner@utah.gov>, Dennis Ingram <dennisingram@utah.gov>, Carol Daniels <caroldaniels@utah.gov>, "Evans, Perry (Contractor)" <Perry.Evans@epenergy.com>, "Gaydos, Tommy L" <Tommy.Gaydos@epenergy.com>, "MacAfee, Bradley D" <Brad.MacAfee@epenergy.com>, "Gomez, Maria S" <Maria.Gomez@epenergy.com>, "Morales, Lisa" <Lisa.Morales@epenergy.com>

24 Hr Notice of Running and Cementing of 9 5/8" Surface Casing. Will test 11" 5k BOPE 24 Hrs later.

Well: Penfield 2-10C4

API # 43013520840000

County: Duchesne

Rig: Precision Drilling Rig #404

Best Regards

Steve Murphey

Jame H Wilson

RLANDRIG008@ELPASO.COM

RIG PHONE 435-823-1726

HAND HELD 435-823-1725

PRECISION DRILLING RIG 404

**RECEIVED****JUL 14 2013****DIV. OF OIL, GAS & MINING**

**CONFIDENTIAL****24 HR NOTICE OF RUN'G AND CMT'G OF 9 5/8" SFC CSG - TESTING OF 11" 10 K BOPE**

35 4W 10

**RLANDRIG008** <RLANDRIG008@epenergy.com>

Sun, Jul 14, 2013 at 5:15 PM

To: Alexis Huefner <alexishuefner@utah.gov>, Dennis Ingram <dennisingram@utah.gov>, Carol Daniels <caroldaniels@utah.gov>, "Evans, Perry (Contractor)" <Perry.Evans@epenergy.com>, "Gaydos, Tommy L" <Tommy.Gaydos@epenergy.com>, "MacAfee, Bradley D" <Brad.MacAfee@epenergy.com>, "Gomez, Maria S" <Maria.Gomez@epenergy.com>, "Morales, Lisa" <Lisa.Morales@epenergy.com>

24 Hr Notice of Running and Cementing of 9 5/8" Surface Casing. Will test 11" 5k BOPE 24 Hrs later.

Well: Penfield 2-10C4

API # 43013520840000

County: Duchesne

Rig: Precision Drilling Rig #404

Best Regards

Steve Murphey

Jame H Wilson

RLANDRIG008@ELPASO.COM

RIG PHONE 435-823-1726

HAND HELD 435-823-1725

PRECISION DRILLING RIG 404

**RECEIVED****JUL 14 2013****DIV. OF OIL, GAS & MINING**



**Company:** EP Energy  
**Well:** Penfield 2-10C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:**  
**Mag Decl.:**  
**Dir Driller:**  
**MWD Eng:**

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')		
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth					
Tie In	0.00	0.00	0.00												
1	300.00	0.65	178.24	300.00	299.99	-1.70	1.70	S	0.05	E	1.70	178.24	0.22	0.22	59.41
2	600.00	0.22	223.93	300.00	599.98	-3.82	3.82	S	0.30	W	3.83	184.42	0.17	-0.14	15.23
3	900.00	0.13	337.94	300.00	899.98	-3.92	3.92	S	0.82	W	4.00	191.86	0.10	-0.03	38.00
4	1200.00	0.62	233.95	300.00	1199.98	-4.56	4.56	S	2.26	W	5.09	206.41	0.22	0.16	-34.66
5	1500.00	0.65	246.97	300.00	1499.96	-6.18	6.18	S	5.14	W	8.04	219.77	0.05	0.01	4.34
6	1800.00	1.19	236.63	300.00	1799.92	-8.56	8.56	S	9.31	W	12.64	227.41	0.19	0.18	-3.45
7	2100.00	1.36	243.90	300.00	2099.85	-11.84	11.84	S	15.11	W	19.19	231.92	0.08	0.06	2.42
8	2400.00	1.41	230.46	300.00	2399.76	-15.75	15.75	S	21.15	W	26.37	233.32	0.11	0.02	-4.48
9	2700.00	1.76	235.96	300.00	2699.64	-20.68	20.68	S	27.81	W	34.66	233.37	0.13	0.12	1.83
10	3000.00	0.93	280.57	300.00	2999.57	-22.81	22.81	S	34.03	W	40.97	236.16	0.43	-0.28	14.87
11	3300.00	0.43	212.68	300.00	3299.55	-23.31	23.31	S	37.03	W	43.76	237.80	0.29	-0.17	-22.63
12	3600.00	1.73	223.55	300.00	3599.49	-27.54	27.54	S	40.76	W	49.19	235.95	0.44	0.43	3.62
13	3900.00	1.98	227.46	300.00	3899.33	-34.33	34.33	S	47.69	W	58.76	234.25	0.09	0.08	1.30
14	4200.00	1.33	274.50	300.00	4199.22	-37.56	37.56	S	54.98	W	66.59	235.66	0.48	-0.22	15.68
15	4500.00	1.62	239.54	300.00	4499.12	-39.44	39.44	S	62.11	W	73.57	237.59	0.31	0.10	-11.65
16	4800.00	1.31	268.82	300.00	4799.03	-41.66	41.66	S	69.19	W	80.77	238.95	0.27	-0.10	9.76
17	5100.00	1.98	235.27	300.00	5098.91	-44.68	44.68	S	76.88	W	88.92	239.84	0.38	0.22	-11.18
18	5400.00	1.52	257.38	300.00	5398.77	-48.50	48.50	S	85.02	W	97.89	240.30	0.27	-0.15	7.37
19	5700.00	1.13	254.83	300.00	5698.69	-50.15	50.15	S	91.76	W	104.57	241.34	0.13	-0.13	-0.85
20	6000.00	1.44	245.18	300.00	5998.62	-52.50	52.50	S	98.04	W	111.21	241.83	0.13	0.10	-3.22
21	6300.00	1.95	224.33	300.00	6298.49	-57.74	57.74	S	105.03	W	119.85	241.20	0.26	0.17	-6.95
22	6600.00	1.92	332.02	300.00	6598.39	-56.95	56.95	S	110.95	W	124.71	242.83	1.04	-0.01	35.90
23	6900.00	1.63	269.60	300.00	6898.27	-52.54	52.54	S	117.58	W	128.78	245.92	0.62	-0.10	-20.81
24	7200.00	1.64	265.20	300.00	7198.15	-52.93	52.93	S	126.12	W	136.78	247.23	0.04	0.00	-1.47
25	7500.00	2.62	233.49	300.00	7497.95	-57.37	57.37	S	135.91	W	147.52	247.12	0.50	0.33	-10.57
26	7800.00	2.53	256.36	300.00	7797.65	-63.01	63.01	S	147.86	W	160.72	246.92	0.34	-0.03	7.62
27	8100.00	2.53	256.51	300.00	8097.36	-66.12	66.12	S	160.73	W	173.80	247.64	0.00	0.00	0.05
28	8400.00	3.24	234.96	300.00	8396.99	-72.53	72.53	S	174.11	W	188.61	247.39	0.43	0.24	-7.18
29	8699.00	3.29	238.04	299.00	8695.50	-81.92	81.92	S	188.31	W	205.36	246.49	0.06	0.02	1.03
30	9000.00	2.84	255.16	301.00	8996.08	-88.40	88.40	S	202.85	W	221.27	246.45	0.34	-0.15	5.69
31	9300.00	1.66	246.66	300.00	9295.84	-92.03	92.03	S	214.02	W	232.97	246.73	0.41	-0.39	-2.83
32	9400.00	0.99	218.25	100.00	9395.81	-93.28	93.28	S	215.88	W	235.17	246.63	0.92	-0.67	-28.41
33	9500.00	2.10	199.95	100.00	9495.78	-95.68	95.68	S	217.04	W	237.20	246.21	1.20	1.11	-18.30
34	9600.00	2.55	208.37	100.00	9595.69	-99.36	99.36	S	218.73	W	240.24	245.57	0.56	0.45	8.42
35	9700.00	2.71	224.20	100.00	9695.59	-103.01	103.01	S	221.43	W	244.22	245.05	0.74	0.16	15.83



**Company:** EP Energy  
**Well:** Penfield 2-10C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:**  
**Mag Decl.:**  
**Dir Driller:**  
**MWD Eng:**

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates				Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)		E/W (ft)		Distance (ft)	Direction Azimuth			
36	9800.00	2.83	227.82	100.00	9795.47	-106.36	106.36	S	224.91	W	248.79	244.69	0.21	0.12	3.62
37	9900.00	2.95	225.52	100.00	9895.35	-109.83	109.83	S	228.57	W	253.59	244.34	0.17	0.12	-2.30
38	10000.00	3.26	225.67	100.00	9995.20	-113.62	113.62	S	232.44	W	258.73	243.95	0.31	0.31	0.15
39	10100.00	3.59	234.74	100.00	10095.02	-117.41	117.41	S	237.03	W	264.52	243.65	0.63	0.33	9.07
40	10200.00	3.59	235.50	100.00	10194.83	-120.99	120.99	S	242.17	W	270.71	243.45	0.05	0.00	0.76
41	10300.00	3.70	237.83	100.00	10294.62	-124.48	124.48	S	247.48	W	277.03	243.30	0.18	0.11	2.33
42	10400.00	3.61	240.18	100.00	10394.42	-127.76	127.76	S	252.95	W	283.38	243.20	0.17	-0.09	2.35
43	10500.00	3.49	237.20	100.00	10494.23	-130.98	130.98	S	258.24	W	289.55	243.11	0.22	-0.12	-2.98
44	10600.00	3.81	240.06	100.00	10594.02	-134.29	134.29	S	263.67	W	295.90	243.01	0.37	0.32	2.86
45	10700.00	3.42	241.86	100.00	10693.83	-137.35	137.35	S	269.18	W	302.20	242.97	0.41	-0.39	1.80
46	10800.00	3.38	237.64	100.00	10793.65	-140.34	140.34	S	274.30	W	308.12	242.91	0.25	-0.04	-4.22
47	10900.00	3.32	241.56	100.00	10893.48	-143.29	143.29	S	279.34	W	313.95	242.84	0.24	-0.06	3.92
48	11000.00	3.42	242.78	100.00	10993.31	-146.04	146.04	S	284.54	W	319.82	242.83	0.12	0.10	1.22
49	11100.00	3.42	235.41	100.00	11093.13	-149.09	149.09	S	289.65	W	325.77	242.76	0.44	0.00	-7.37
50	11200.00	3.30	237.91	100.00	11192.96	-152.32	152.32	S	294.54	W	331.59	242.66	0.19	-0.12	2.50
51	11300.00	3.53	243.47	100.00	11292.78	-155.22	155.22	S	299.73	W	337.54	242.62	0.40	0.23	5.56
52	11400.00	3.54	244.91	100.00	11392.59	-157.90	157.90	S	305.28	W	343.70	242.65	0.09	0.01	1.44
53	11500.00	3.50	245.33	100.00	11492.40	-160.49	160.49	S	310.85	W	349.84	242.69	0.05	-0.04	0.42
54	11600.00	3.32	241.24	100.00	11592.22	-163.15	163.15	S	316.16	W	355.78	242.70	0.30	-0.18	-4.09
55	11700.00	3.68	240.25	100.00	11692.04	-166.14	166.14	S	321.49	W	361.88	242.67	0.37	0.36	-0.99
56	11800.00	3.68	246.74	100.00	11791.83	-169.00	169.00	S	327.22	W	368.29	242.69	0.42	0.00	6.49
57	11900.00	3.76	241.74	100.00	11891.62	-171.82	171.82	S	333.06	W	374.77	242.71	0.33	0.08	-5.00
58	11986.00	3.77	241.80	86.00	11977.43	-174.49	174.49	S	338.04	W	380.41	242.70	0.01	0.01	0.07
59	12100.00	3.77	241.80	114.00	12091.19	-178.03	178.03	S	344.64	W	387.91	242.68	0.00	0.00	0.00
60															
61															
62															
63															
64															
65															
66															
67															
68															
69															
70															
71															
72															





**Company:** EP Energy  
**Well:** Penfield 2-10C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:** \_\_\_\_\_  
**Mag Decl.:** \_\_\_\_\_  
**Dir Driller:** \_\_\_\_\_  
**MWD Eng:** \_\_\_\_\_

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
73													
74													
75													
76													
77													
78													
79													
80													
81													
82													
83													
84													
85													
86													
87													
88													
89													
90													
91													
92													
93													
94													
95													
96													
97													
98													
99													
100													
101													
102													
103													
104													
105													
106													
107													
108													
109													



**Company:** EP Energy  
**Well:** Penfield 2-10C4  
**Location:** Duchesne, UT  
**Rig:** Precision 404

**Job Number:** \_\_\_\_\_  
**Mag Decl.:** \_\_\_\_\_  
**Dir Driller:** \_\_\_\_\_  
**MWD Eng:** \_\_\_\_\_

**Calculation Method** Minimum Curvature  
**Proposed Azimuth** 0.00  
**Depth Reference** KB  
**Tie Into:** Gyro/MWD

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
110													
111													
112													
113													
114													
115													
116													
117													
118													
119													
120													
121													
122													
123													
124													
125													
126													
127													
128													
129													
130													
131													
132													
133													
134													
135													
136													
137													

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MININGAMENDED REPORT ☐ FORM 8  
(highlight changes)

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER:	
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ. LATS. <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR: EP Energy E&P Company, L.P.		7. UNIT or CA AGREEMENT NAME	
3. ADDRESS OF OPERATOR: 1001 Louisiana CITY Houston STATE TX ZIP 77002		8. WELL NAME and NUMBER: Penfield 2-10C4	
PHONE NUMBER: (713) 997-5038		9. API NUMBER: 4301352084	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 901 FNL & 700 FEL AT TOP PRODUCING INTERVAL REPORTED BELOW: 901 FNL & 700 FEL AT TOTAL DEPTH: 901 FNL & 700 FEL		10 FIELD AND POOL, OR WILDCAT Altamont	
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 10 3S 4W U		12. COUNTY Duchesne	
13. STATE UTAH		14. DATE SPURRED: 7/9/2013	
15. DATE T.D. REACHED: 7/29/2013		16. DATE COMPLETED: 8/23/2013	
ABANDONED <input type="checkbox"/> READY TO PRODUCE <input checked="" type="checkbox"/>		17. ELEVATIONS (DF, RKB, RT, GL): 6063 GL	
18. TOTAL DEPTH: MD 12,100 TVD 12,100		19. PLUG BACK T.D.: MD TVD	
20. IF MULTIPLE COMPLETIONS, HOW MANY? *		21. DEPTH BRIDGE MD PLUG SET: TVD	
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) Sonic, Gamma Ray, Resistivity & Neutron Density		23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)	

## 24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
17.5	13.325 J-55	54.5	0	635		G 800	920	Surface	
12.25	9.625 N-80	40	0	2,500		G 587	1,332	Surface	
8.75	7 P-110	29	0	9,695		Prem 605	1,365	~6000	
6.125	5 P-110	18	9,459	1,295		Prem 191	281	~9459	

## 25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2.875	9.616							

## 26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) Wasatch	10.264	11.902			11.704 11.902	.36	66	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)					11.303 11.611	.36	69	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(C)					10.990 11.259	.36	60	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(D)					10.803 10.970	.36	54	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>

## 27. PERFORATION RECORD

## 28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

WAS WELL HYDRAULICALLY FRACTURED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		IF YES -- DATE FRACTURED: 08/21/2013
DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL	
11704'-11902'	5000 gals 15% HCL, 3000# 100 mesh, 119780# 20/40 PowerProp	
11303'-11611'	5000 gals 15% HCL, 3000# 100 mesh, 140140# 20/40 PowerProp	
10990'-11259'	5000 gals 15% HCL, 3000# 100 mesh, 155420# 20/40 PowerProp	

## 29. ENCLOSED ATTACHMENTS:

Logs submitted by vendor

- |   |  |                                       |  |
|---|--|---------------------------------------|--|
| <input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS                         | <input type="checkbox"/> GEOLOGIC REPORT | <input type="checkbox"/> DST REPORT   | <input checked="" type="checkbox"/> DIRECTIONAL SURVEY |
| <input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION | <input type="checkbox"/> CORE ANALYSIS   | <input type="checkbox"/> OTHER: _____ |  |

## 30. WELL STATUS:

Producing

## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 8/24/2013		TEST DATE: 9/24/2013		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 1,049	GAS – MCF: 467	WATER – BBL: 192	PROD. METHOD: Flowing
CHOKE SIZE: 14	TBG. PRESS. 2,825	CSG. PRESS. 0	API GRAVITY 43.90	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 1,049	GAS – MCF: 467	WATER – BBL: 192	INTERVAL STATUS: Producing

## INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

Sold

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				Upper Green River	4.659
				Middle Green River	6.440
				Lower Green River	7.730
				Wasatch	9.530

## 35. ADDITIONAL REMARKS (Include plugging procedure)

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) Maria S Gomez

TITLE Principal Regulatory Analyst

SIGNATURE

*Maria S. Gomez*

DATE 11/26/2013

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

**Attachment to Well Completion Report****Form 8 Dated November 26, 2013****Well Name: Penfield 2-10C4****Items #27 and #28 Continued****27. Perforation Record**

<b>Interval (Top/Bottom – MD)</b>	<b>Size</b>	<b>No. of Holes</b>	<b>Perf. Status</b>
<b>10557'-10766'</b>	<b>.36</b>	<b>54</b>	<b>Open</b>
<b>10261'-10508'</b>	<b>.36</b>	<b>69</b>	<b>Open</b>
<b>9870'-10216'</b>	<b>.36</b>	<b>69</b>	<b>Open</b>

**28. Acid, Fracture, Treatment, Cement Squeeze, Etc.**

<b>Depth Interval</b>	<b>Amount and Type of Material</b>
<b>10803'-10970'</b>	<b>5000 gal acid, 3000# 100 mesh, 155560# 20/40 PowerProp</b>
<b>10557'-10766'</b>	<b>5000 gal acid, 3000# 100 mesh, 148380# 20/40 PowerProp</b>
<b>10261'-10508'</b>	<b>5000 gal acid, 3000# 100 mesh, 168920# 20/40 PowerProp</b>
<b>9870'-10216'</b>	<b>5000 gal acid, 6300# 100 mesh, 170220# 20/40 Tempered LC</b>

## CENTRAL DIVISION

ALTAMONT FIELD  
PENFIELD 2-10C4  
PENFIELD 2-10C4  
PENFIELD 2-10C4

## Deviation Summary Report

Disclaimer: Although the information contained in this report is based on sound engineering practices, the copyright owner(s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

## 1 General

### 1.1 Customer Information

Company	CENTRAL DIVISION
Representative	
Address	

### 1.2 Well Information

Well	PENFIELD 2-10C4	Wellbore No.	OH
Wellbore Legal Name	PENFIELD 2-10C4	Common Wellbore Name	PENFIELD 2-10C4
Project	ALTAMONT FIELD	Site	PENFIELD 2-10C4
Vertical Section Azimuth		North Reference	True
Origin N/S		Origin E/W	
Spud Date/Time	7/13/2013	UWI	PENFIELD 2-10C4
Active Datum	KB @6,079.7ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	VAUGHN ENERGY SERVICES LLC (GYRO TECHNOLOGIES INC)
Started	7/14/2013	Ended	
Tool Name	GYRO	Engineer	BRYAN BRUBAKER

#### 2.1.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.0	0.00	0.00

#### 2.1.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
7/14/2013	Tie On	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7/14/2013	NORMAL	100.0	0.32	133.31	100.0	-0.19	0.20	-0.19	0.32	0.32	0.00	133.31
	NORMAL	200.0	0.56	147.82	200.0	-0.79	0.66	-0.79	0.27	0.24	14.51	31.87
	NORMAL	300.0	0.51	147.22	300.0	-1.58	1.16	-1.58	0.05	-0.05	-0.60	-174.37
	NORMAL	400.0	0.20	172.49	400.0	-2.13	1.43	-2.13	0.34	-0.30	25.27	165.11
	NORMAL	500.0	0.21	133.47	500.0	-2.43	1.58	-2.43	0.14	0.01	-39.02	-105.61
	NORMAL	600.0	0.12	155.91	600.0	-2.65	1.76	-2.65	0.11	-0.09	22.44	156.36
	NORMAL	700.0	0.16	237.76	700.0	-2.82	1.68	-2.82	0.18	0.04	81.85	121.04
	NORMAL	800.0	0.13	268.91	800.0	-2.90	1.45	-2.90	0.08	-0.03	31.14	123.18
	NORMAL	900.0	0.23	249.39	900.0	-2.97	1.14	-2.97	0.12	0.10	-19.51	-42.27
	NORMAL	1,000.0	0.35	247.94	1,000.0	-3.16	0.67	-3.16	0.12	0.12	-1.45	-4.32
	NORMAL	1,100.0	0.47	236.22	1,100.0	-3.50	0.04	-3.50	0.14	0.12	-11.72	-41.76
	NORMAL	1,200.0	0.61	239.70	1,200.0	-3.99	-0.75	-3.99	0.14	0.14	3.48	14.94
	NORMAL	1,300.0	0.71	231.70	1,300.0	-4.64	-1.69	-4.64	0.14	0.10	-8.00	-45.74
	NORMAL	1,400.0	0.81	244.20	1,400.0	-5.33	-2.81	-5.33	0.19	0.10	12.49	64.97
	NORMAL	1,500.0	0.77	219.46	1,500.0	-6.16	-3.88	-6.16	0.34	-0.04	-24.73	-108.78
	NORMAL	1,600.0	0.84	229.04	1,599.9	-7.16	-4.86	-7.16	0.15	0.07	9.58	67.40
	NORMAL	1,700.0	1.01	228.53	1,699.9	-8.22	-6.07	-8.22	0.17	0.16	-0.52	-3.14
	NORMAL	1,800.0	1.00	231.76	1,799.9	-9.34	-7.41	-9.34	0.06	-0.01	3.23	100.67
	NORMAL	1,900.0	1.27	226.87	1,899.9	-10.64	-8.90	-10.64	0.29	0.27	-4.88	-22.12

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
7/14/2013	NORMAL	2,000.0	1.28	214.75	1,999.9	-12.31	-10.35	-12.31	0.27	0.01	-12.12	-93.31
	NORMAL	2,100.0	1.34	221.99	2,099.9	-14.10	-11.77	-14.10	0.18	0.06	7.24	73.71
	NORMAL	2,200.0	1.28	226.44	2,199.8	-15.73	-13.36	-15.73	0.12	-0.06	4.45	123.18
	NORMAL	2,300.0	1.38	221.03	2,299.8	-17.41	-14.96	-17.41	0.16	0.10	-5.40	-53.88
	NORMAL	2,400.0	1.64	205.96	2,399.8	-19.61	-16.37	-19.61	0.47	0.26	-15.07	-64.66
	NORMAL	2,438.0	1.77	210.65	2,437.7	-20.60	-16.91	-20.60	0.51	0.36	12.34	48.32

## 2.2 Survey Name: Survey #2

Survey Name	Survey #2	Company	RYAN ENERGY TECHNOLOGIES
Started	7/16/2013	Ended	
Tool Name	MWD	Engineer	El Paso

## 2.2.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
2,438.0	1.77	210.65	2,437.7	-20.60	-16.91

## 2.2.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
7/16/2013	Tie On	2,438.0	1.77	210.65	2,437.7	-20.60	-16.91	-20.60	0.00	0.00	0.00	0.00
7/16/2013	NORMAL	2,769.0	2.20	208.21	2,768.5	-30.60	-22.52	-30.60	0.13	0.13	-0.74	-12.44
	NORMAL	2,954.0	1.41	256.18	2,953.5	-34.28	-26.41	-34.28	0.88	-0.43	25.93	140.17
7/17/2013	NORMAL	3,140.0	0.40	261.89	3,139.4	-34.91	-29.28	-34.91	0.54	-0.54	3.07	177.75
	NORMAL	3,233.0	0.31	263.09	3,232.4	-34.99	-29.85	-34.99	0.10	-0.10	1.29	175.88
	NORMAL	3,326.0	0.40	222.38	3,325.4	-35.26	-30.32	-35.26	0.28	0.10	-43.77	-91.49
	NORMAL	3,419.0	0.79	204.76	3,418.4	-36.08	-30.81	-36.08	0.46	0.42	-18.95	-34.12
	NORMAL	3,512.0	1.19	215.26	3,511.4	-37.45	-31.63	-37.45	0.47	0.43	11.29	29.71
	NORMAL	3,605.0	1.41	206.08	3,604.4	-39.27	-32.69	-39.27	0.33	0.24	-9.87	-48.08
	NORMAL	3,698.0	1.89	202.78	3,697.4	-41.71	-33.79	-41.71	0.53	0.52	-3.55	-12.85
	NORMAL	3,791.0	2.02	203.09	3,790.3	-44.63	-35.03	-44.63	0.14	0.14	0.33	4.81
	NORMAL	3,884.0	2.42	203.48	3,883.2	-47.94	-36.45	-47.94	0.43	0.43	0.42	2.36
	NORMAL	3,977.0	1.01	195.57	3,976.2	-50.53	-37.45	-50.53	1.53	-1.52	-8.51	-174.41
	NORMAL	4,070.0	1.01	245.76	4,069.2	-51.66	-38.42	-51.66	0.92	0.00	53.97	115.09
	NORMAL	4,163.0	1.19	241.28	4,162.2	-52.46	-40.01	-52.46	0.21	0.19	-4.82	-27.79
	NORMAL	4,256.0	1.58	232.85	4,255.1	-53.70	-41.88	-53.70	0.47	0.42	-9.06	-31.84
	NORMAL	4,349.0	1.89	221.06	4,348.1	-55.63	-43.91	-55.63	0.51	0.33	-12.68	-55.02
	NORMAL	4,442.0	1.58	217.28	4,441.0	-57.80	-45.70	-57.80	0.36	-0.33	-4.06	-161.62
	NORMAL	4,535.0	2.02	201.07	4,534.0	-60.35	-47.06	-60.35	0.72	0.47	-17.43	-57.46
	NORMAL	4,628.0	1.32	237.28	4,627.0	-62.46	-48.55	-62.46	1.33	-0.75	38.94	140.76
	NORMAL	4,721.0	1.10	236.09	4,719.9	-63.54	-50.19	-63.54	0.24	-0.24	-1.28	-174.08
	NORMAL	4,814.0	1.41	255.68	4,812.9	-64.32	-52.04	-64.32	0.56	0.33	21.06	64.21
	NORMAL	4,907.0	1.49	220.49	4,905.9	-65.52	-53.94	-65.52	0.95	0.09	-37.84	-102.62
	NORMAL	5,000.0	1.80	207.26	4,998.9	-67.74	-55.39	-67.74	0.53	0.33	-14.23	-57.51
	NORMAL	5,093.0	2.11	200.10	5,091.8	-70.65	-56.65	-70.65	0.42	0.33	-7.70	-41.85
	NORMAL	5,186.0	2.42	201.20	5,184.7	-74.09	-57.95	-74.09	0.34	0.33	1.18	8.53
7/18/2013	NORMAL	5,279.0	0.88	227.08	5,277.7	-76.40	-59.18	-76.40	1.80	-1.66	27.83	166.72
	NORMAL	5,372.0	1.49	227.57	5,370.7	-77.71	-60.60	-77.71	0.66	0.66	0.53	1.20
	NORMAL	5,464.0	2.02	217.99	5,462.6	-79.79	-62.48	-79.79	0.66	0.58	-10.41	-33.81
	NORMAL	5,557.0	2.50	211.39	5,555.6	-82.81	-64.54	-82.81	0.59	0.52	-7.10	-31.79
	NORMAL	5,650.0	2.02	223.96	5,648.5	-85.72	-66.74	-85.72	0.74	-0.52	13.52	140.24
	NORMAL	5,743.0	0.48	215.48	5,741.5	-87.22	-68.10	-87.22	1.66	-1.66	-9.12	-177.38
	NORMAL	5,836.0	1.49	225.50	5,834.4	-88.39	-69.19	-88.39	1.10	1.09	10.77	14.71

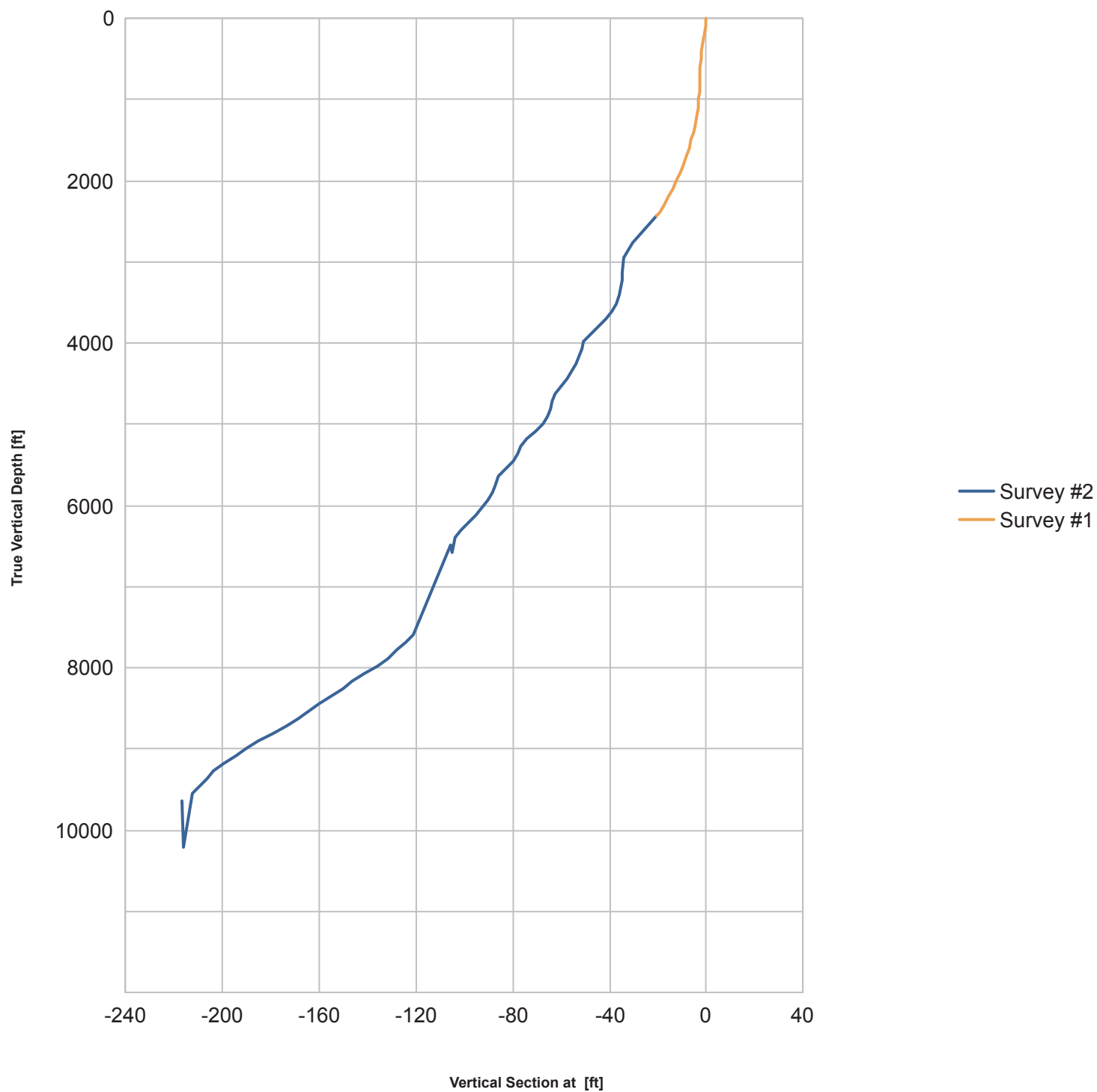


## 2.2.2 Survey Stations (Continued)

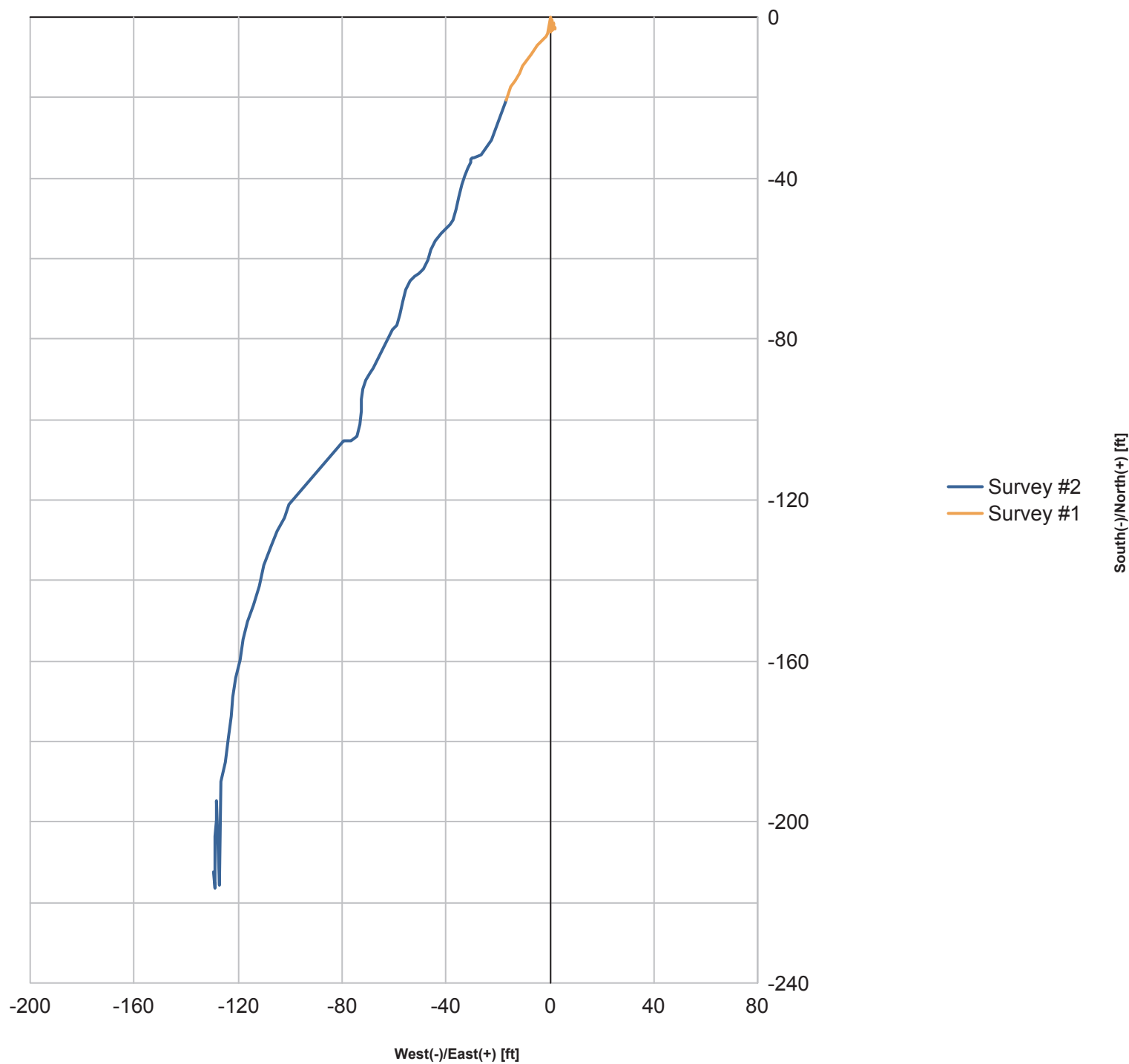
Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
7/18/2013	NORMAL	5,929.0	1.58	214.69	5,927.4	-90.29	-70.78	-90.29	0.33	0.10	-11.62	-78.19
	NORMAL	6,022.0	1.48	200.28	6,020.4	-92.47	-71.93	-92.47	0.43	-0.11	-15.49	-111.70
	NORMAL	6,115.0	1.80	188.28	6,113.3	-95.04	-72.55	-95.04	0.50	0.34	-12.90	-53.13
	NORMAL	6,208.0	1.89	182.79	6,206.3	-98.02	-72.84	-98.02	0.21	0.10	-5.90	-65.78
	NORMAL	6,301.0	2.20	187.40	6,299.2	-101.32	-73.14	-101.32	0.38	0.33	4.96	30.27
	NORMAL	6,394.0	1.49	214.16	6,392.2	-104.09	-74.05	-104.09	1.18	-0.76	28.77	142.35
	NORMAL	6,487.0	2.11	260.57	6,485.1	-105.37	-76.42	-105.37	1.64	0.67	49.90	91.31
	NORMAL	6,580.0	1.49	288.30	6,578.1	-105.27	-79.26	-105.27	1.13	-0.67	29.82	138.77
7/20/2013	NORMAL	7,604.0	2.42	203.40	7,601.7	-120.94	-100.49	-120.94	0.27	0.09	-8.29	-117.86
	NORMAL	7,697.0	2.50	215.88	7,694.6	-124.38	-102.46	-124.38	0.58	0.09	13.42	87.77
	NORMAL	7,790.0	2.68	219.00	7,787.5	-127.71	-105.01	-127.71	0.25	0.19	3.35	39.64
	NORMAL	7,883.0	2.99	209.59	7,880.4	-131.51	-107.58	-131.51	0.60	0.33	-10.12	-61.09
	NORMAL	7,976.0	3.38	205.99	7,973.2	-136.09	-109.98	-136.09	0.47	0.42	-3.87	-28.96
	NORMAL	8,069.0	3.52	197.86	8,066.1	-141.27	-112.06	-141.27	0.55	0.15	-8.74	-78.11
7/21/2013	NORMAL	8,162.0	2.81	205.90	8,158.9	-146.04	-113.93	-146.04	0.90	-0.76	8.65	151.96
	NORMAL	8,255.0	2.81	211.66	8,251.8	-150.03	-116.12	-150.03	0.30	0.00	6.19	92.88
	NORMAL	8,348.0	3.52	195.79	8,344.7	-154.72	-118.09	-154.72	1.21	0.76	-17.06	-59.09
	NORMAL	8,441.0	2.99	194.17	8,437.5	-159.81	-119.46	-159.81	0.58	-0.57	-1.74	-170.96
	NORMAL	8,534.0	2.81	199.18	8,530.4	-164.32	-120.81	-164.32	0.33	-0.19	5.39	127.86
	NORMAL	8,627.0	2.90	191.18	8,623.3	-168.78	-122.01	-168.78	0.44	0.10	-8.60	-81.29
	NORMAL	8,721.0	3.21	189.38	8,717.1	-173.71	-122.90	-173.71	0.35	0.33	-1.91	-18.09
	NORMAL	8,813.0	3.60	186.00	8,809.0	-179.12	-123.62	-179.12	0.48	0.42	-3.67	-28.93
	NORMAL	8,907.0	3.78	197.86	8,902.8	-185.01	-124.88	-185.01	0.83	0.19	12.62	82.69
7/22/2013	NORMAL	9,000.0	2.81	203.66	8,995.6	-190.01	-126.74	-190.01	1.10	-1.04	6.24	163.91
	NORMAL	9,093.0	3.12	194.08	9,088.5	-194.56	-128.27	-194.56	0.63	0.33	-10.30	-62.81
	NORMAL	9,186.0	3.21	172.98	9,181.4	-199.60	-128.56	-199.60	1.25	0.10	-22.69	-96.17
	NORMAL	9,279.0	1.89	197.77	9,274.3	-203.64	-128.71	-203.64	1.82	-1.42	26.66	152.06
	NORMAL	9,372.0	1.32	178.26	9,367.2	-206.17	-129.15	-206.17	0.84	-0.61	-20.98	-145.68
	NORMAL	9,558.0	2.59	183.75	9,553.1	-212.51	-129.36	-212.51	0.69	0.68	2.95	11.14
	NORMAL	9,649.0	2.50	170.88	9,644.0	-216.52	-129.18	-216.52	0.63	-0.10	-14.14	-105.34
7/27/2013	NORMAL	10,225.0	2.62		10,219.9	-215.76	-127.19	-215.76	0.89	0.02	-29.67	-175.33

### 3 Charts

#### 3.1 Vertical Section View



### 3.2 Plan View



---

**Table of Contents**

1	General.....	1
1.1	Customer Information.....	1
1.2	Well Information.....	1
2	Survey Name.....	1
2.1	Survey Name: Survey #1.....	1
2.1.1	Tie On Point.....	1
2.1.2	Survey Stations.....	1
2.2	Survey Name: Survey #2.....	2
2.2.1	Tie On Point.....	2
2.2.2	Survey Stations.....	2
3	Charts.....	4
3.1	Vertical Section View.....	4
3.2	Plan View.....	5